NOVA SCOTIA

Career Options:

An Occupational Handbook for Nova Scotians

2003

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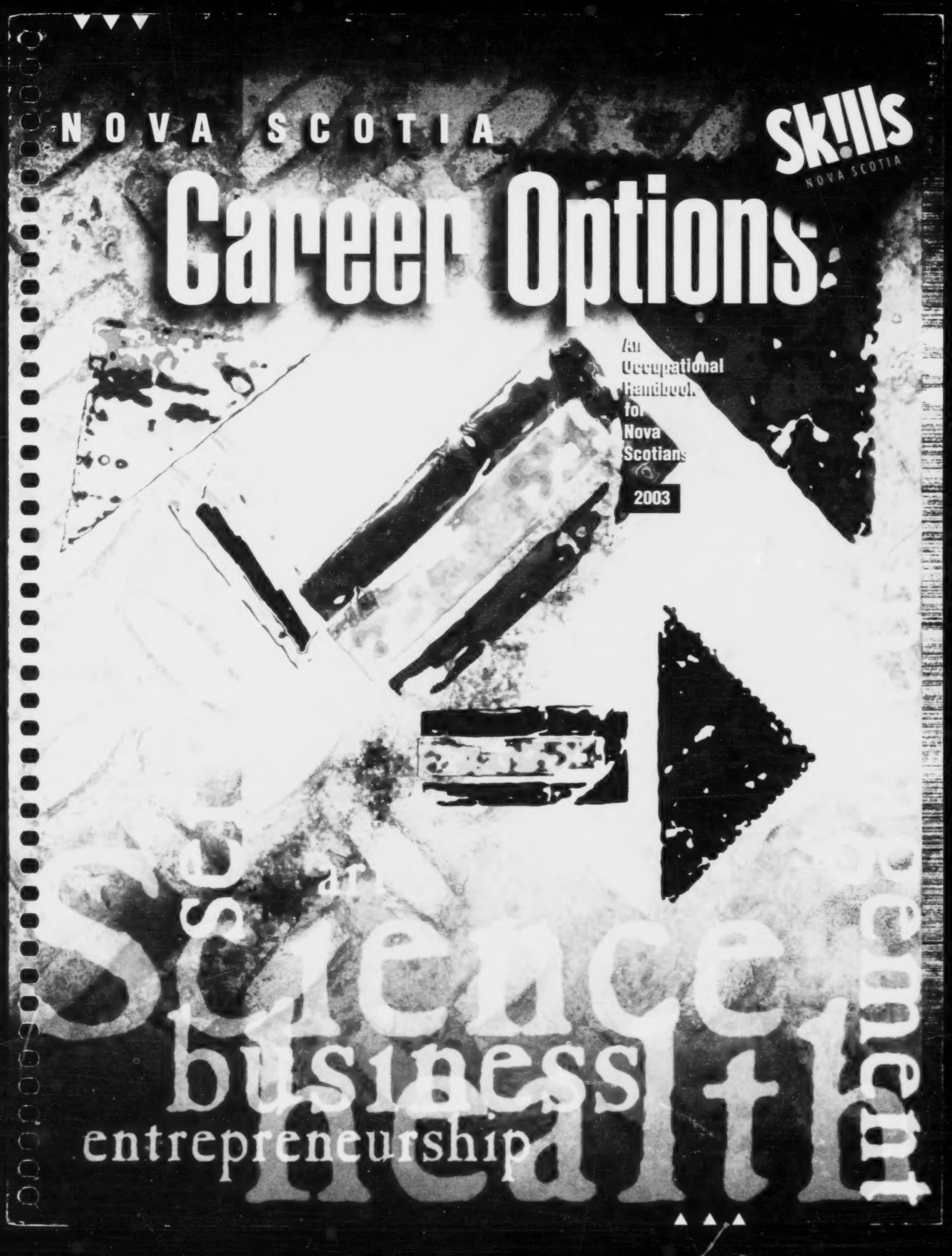
science
business
entrepreneurship
health

NOVA SCOTIA

Career Options

An
Occupational
Handbook
for
Nova
Scotians

2003

Career Options

An Occupational Handbook for Nova Scotians

2003 edition

The information contained in
Career Options was accurate to the best
of the author's knowledge at the time of
printing. Labour market information and
educational programs are subject to change,
and it is recommended that the reader
verify the information before making
any career decisions.

The material in this handbook may be
photocopied for educational or career
counselling purposes.

This publication is available on the Internet...
careeroptions.ednet.ns.ca.
Please visit this site for the most current
information; it will be updated as new
information becomes available.

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Skills and Learning Branch

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Nova Scotia

Department of Education
Office of the Minister

PO Box 578
Halifax, Nova Scotia
B3J 2S9

Dear Reader:

I am very pleased to present you with the 2003 edition of *Career Options: An Occupational Handbook for Nova Scotians.*

I believe that every young person in Nova Scotia can look forward to a bright future in a strong workforce in our province. The key to your success is making good choices, and *Career Options* will provide you with some of the information you need to make choices about your future.

To have confidence in your career decisions, you should be informed about the wide range of choices available to Nova Scotians. *Career Options* provides you with information on various occupations, required training, and the average annual salary in these occupations. For your future financial security, you should consider the income and employment prospects for the jobs that interest you.

You need to know what education and training you will need and where you will find relevant courses. If you are a high school student, you should make your course selections with an understanding of how your choices now can affect your future.

Career Options provides this information and more. This year we have revised and expanded the section describing how to succeed in Nova Scotia's labour market. The *Career Options* website careeroptions.ednet.ns.ca offers the same information as the handbook in an easy-to-search format. There are many links to other sites, including sites for career planning, educational institutions, and professional and trade associations.

I am confident that you will find *Career Options* a valuable resource as you begin planning your career. I wish you every success as you prepare for your future.

Yours truly,

Angus MacIsaac

Angus MacIsaac

Acknowledgements

A special note of thanks is extended to the many associations, career counsellors, employers, and labour unions who provided useful comments on **Career Options**. Some of these groups have also allowed their names and addresses to be included as sources of further information for particular occupations. It should be noted that the inclusion of an organization's name does not necessarily imply its endorsement of the information contained in **Career Options**, nor does it imply the endorsement of the organization by the Nova Scotia Department of Education. The Department of Education would also like to thank Human Resources Development Canada (HRDC) for its assistance in the development of **Career Options**.

how careeroptions works

Occupational Title...
identifies the group of occupations.

Typical Occupations...
lists some of the most common occupations in this group.

Nature of the Work...
tells you what the work in this occupation is like. It may also tell you about the work setting and the physical requirements needed to do the job.

Requirements...
tells you what you need to work in this occupation, e.g. diplomas or degrees, training, certification, or other background that employers require.

Training Paths...
tells you where in Nova Scotia you may learn what you need in order to work in this occupation. It also tells you what you need to get into the education or training program and how long the program takes to complete.

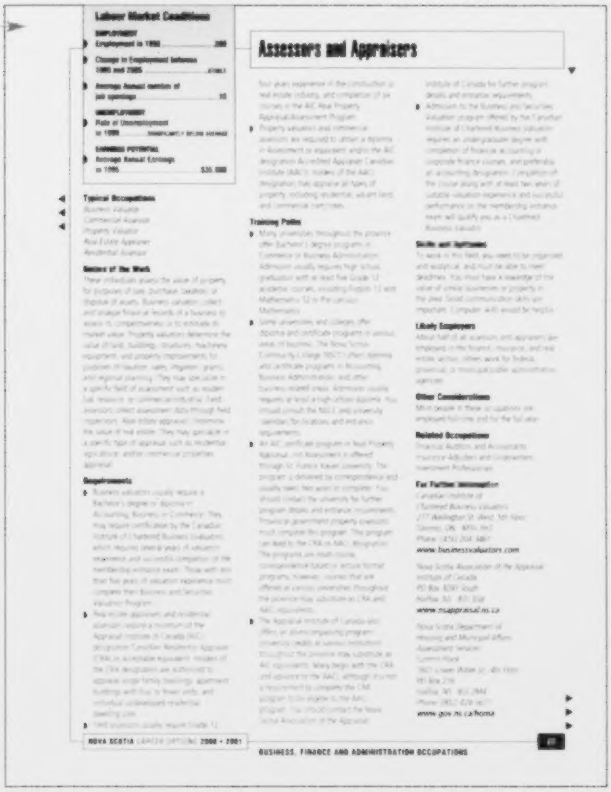
Skills and Aptitudes...
needed to do the job are described. A skill is something you learn how to do; an aptitude is an ability that you are born with.

Likely Employers...
tells you where you are most likely to find this kind of job.

Other Considerations...
gives you other interesting information about the occupation, such as whether the work is usually seasonal, how the economy might affect jobs in the occupation, and more information on wages.

Related Occupations...
suggests other occupational categories that may interest you.

For Further Information...
provides you with contact information for organizations that can provide you with more information about the occupation.



Labour Market Conditions

Assessors and Appraisers

Typical Occupations

Training Paths

Likely Employers

Other Considerations

Related Occupations

www.businessvaluators.com

www.nsappraisal.ns.ca

NOVA SCOTIA CAREER OPTIONS 2000 • 2001

BUSINESS, FINANCE AND ADMINISTRATION OCCUPATIONS

Labour Market Conditions

Employment...
tells you how many people were working in this occupation in Nova Scotia in 2002.

Change in Employment...
tells you whether the number of people working in this occupation is expected to decline, remain about the same, grow, or grow rapidly. It will give you an idea of your opportunities for finding these jobs in the future.

Job Openings...
gives you an idea of how many jobs will be available in each year. These job openings occur when new companies open, existing companies expand, or workers who have left their jobs are replaced.

Unemployment Rate...
is based on the number of people who say they are in this occupation and out of work. This information will give you an idea of how much competition you may face for available jobs. For example, if there is above-average unemployment in a certain occupation, a large number of workers are unable to find work in the occupation and will probably be competing with you for any jobs available.

Estimated Annual Average Earnings in 1995...
tells you what the average full-time worker earns in this occupational group; however, until some experience is gained, new workers usually earn much less than this amount. This information is based on the 1996 Census of Canada.

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Questionnaire

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We would really like to hear from our readers. Please take a few minutes and jot down any ideas you might have for improvements. Or, just tell us about how the book was useful to you. Your comments and suggestions, whether general or specific, are greatly appreciated. Please send comments, or a completed photocopy of the questionnaire, to the address above. Thank you for your input.

Tell us about yourself...

I am a

○ Student – grade ____ ○ Teacher – grade ____ ○ Counsellor
○ Other *(please specify)*____

1. Was the user's guide easy to understand? ○ Yes ○ No
Please explain... ____

2. Was the user's guide useful? ○ Yes ○ No
Please explain... ____

3. Was the Changing Labour Market section easy to understand? ○ Yes ○ No
Please explain... ____

4. Was the Changing Labour Market section useful? ○ Yes ○ No
Please explain... ____

5. Were the written occupational descriptions easy to understand? ○ Yes ○ No
Please explain... ____

6. Was the labour market information in the occupations useful? ○ Yes ○ No
Please explain... ____

7. Is there any additional information you would like to see in **Career Options**?

8. Were there any occupations you could not find in the index or in the book?

9. Are there improvements that could be made to the handbook to make it more helpful in the task of exploring occupations?

General Comments

Note...
Career Options is available in schools, in libraries, and on-line at careeroptions.ednet.ns.ca

Additional copies of the handbook can be ordered at a small charge from Service Nova Scotia and Municipal Relations, Government Publications.
Toll-free: 1-800-526-6575
email: publications@gov.ns.ca

The Changing Labour Market

What do you want to do when you grow up?

Don't Know?
Some people seem to be born knowing what they want to do with their lives. But, for most of us, choosing a career takes time and thought.

You could spend around 40 years working for a living. Planning your career is one of the most important and exciting things you can do. It's never too early to start thinking about your future.

Things to Consider When Choosing a Career

Yourself... What is important to you? What is your favourite subject? How do you spend your free time? What are your strengths? Your weaknesses? How do you relate to people? Knowing yourself is the first step in choosing a career.

Many resources are designed to help you assess yourself in terms of choosing an occupation. Your teacher or guidance counsellor can help you locate these. There are also a number of websites that can help you assess your interests, skills, and aptitudes.

The Nova Scotia Youth Secretariat has a site to help you plan your career. Try the quizzes under "Self-assessment."
youth.ednet.ns.ca/development/
[illegible]

Get to "know yourself" on [illegible]

The labour market... The *labour market* is made up of employers and the labour force (people who either have jobs or are looking for one). Labour market information can help you answer these important questions: Where are the jobs? What are employers looking for? How much can you expect to make? Is the nature of work changing? What changes are taking place in Nova Scotia's labour market? How should all this affect your choices?

The nature of the work... What kinds of jobs are there? What do people working in different occupations do? Is the work usually year-round or seasonal? Full-time or part-time? Are there opportunities for self-employment?

Training and education... How much time and money are you willing to invest in education and training? Which high school courses will you need to enter the program you want?

How Can *Career Options* Help You?

The information in *Career Options* is divided into three main sections.

The Changing Labour Market: This section, which you have just started reading, will explain the trends in the Nova Scotia labour market and why you should consider these trends before making choices about your education and career.

Information on Occupations...
The largest section of *Career Options* includes entries for 188 occupations, with information on the hundreds of jobs done by Nova Scotians. For every entry, there is a description of the nature of the work, training required and specific labour market information for that occupation. If you simply want to find out more about what's out there, browse your way through this section.

Career Options is available on-line at careeroptions.ednet.ns.ca. The on-line version allows you to search occupations by keyword.

For example...

Enter "NSCC" to generate a list of occupations where Nova Scotia Community College is mentioned as a training path.

Enter "self-employed" to find occupations with high levels of self-employment.

Enter "Chemistry" to find occupations that may require high school chemistry.

Appendixes... These provide more information on specific topics, such as contact information for colleges and universities and the National Occupational Classifications (NOCs) included in each occupational grouping.

Why stay in school?

JODY AND CHRIS have been friends since high school. A few years ago, Jody and Chris were hired as casual workers for the same company. Since then, Jody has become a regular employee and received a promotion. Chris is still working on a casual basis and has experienced several lengthy lay-offs. This seems odd because both Jody and Chris are hard workers and very similar in many ways,

but ...

Chris never graduated from high school.

Everybody at some point in their life is faced with this decision: Should I stay in school?

Whether you are in junior high school or working toward a university degree, this decision will affect you for the rest of your life. Your level of education will affect your ability to find a job, keep a job, and will affect how much money you can make.

Here's why.

Education and the Labour Force

Once upon a time, a hard-working young person who did not complete high school might look forward to many years of productive employment with a good income.

Times have changed. Decades ago, people began to notice several trends in the labour market. The effects of these trends will become even more pronounced in the future. Look at what's been happening just since 1990. In the last ten years, the number of jobs filled by people without a high school education has declined by almost one-third.

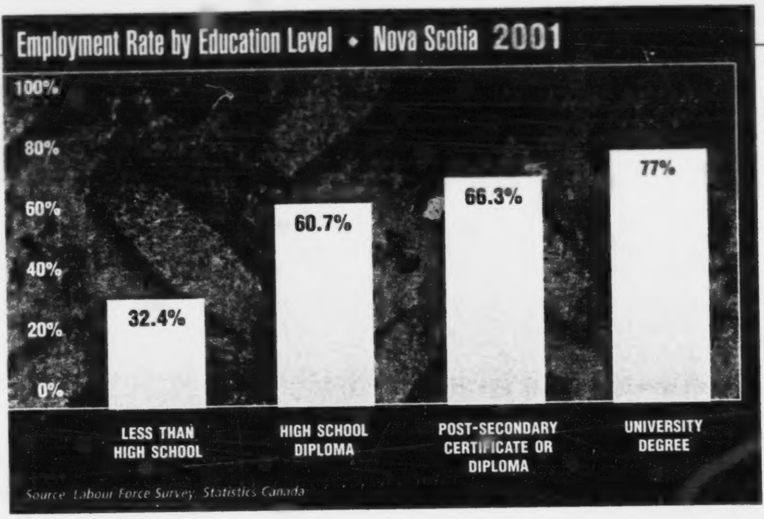
In 2001, only 32% of Nova Scotians with less than a Grade 12 education were working.

Today, more than ever, a good education is the key to finding a job. Everything shows that those who complete high school have a much better chance of finding work.

Don't give up on getting through high school. It's the key to your future.

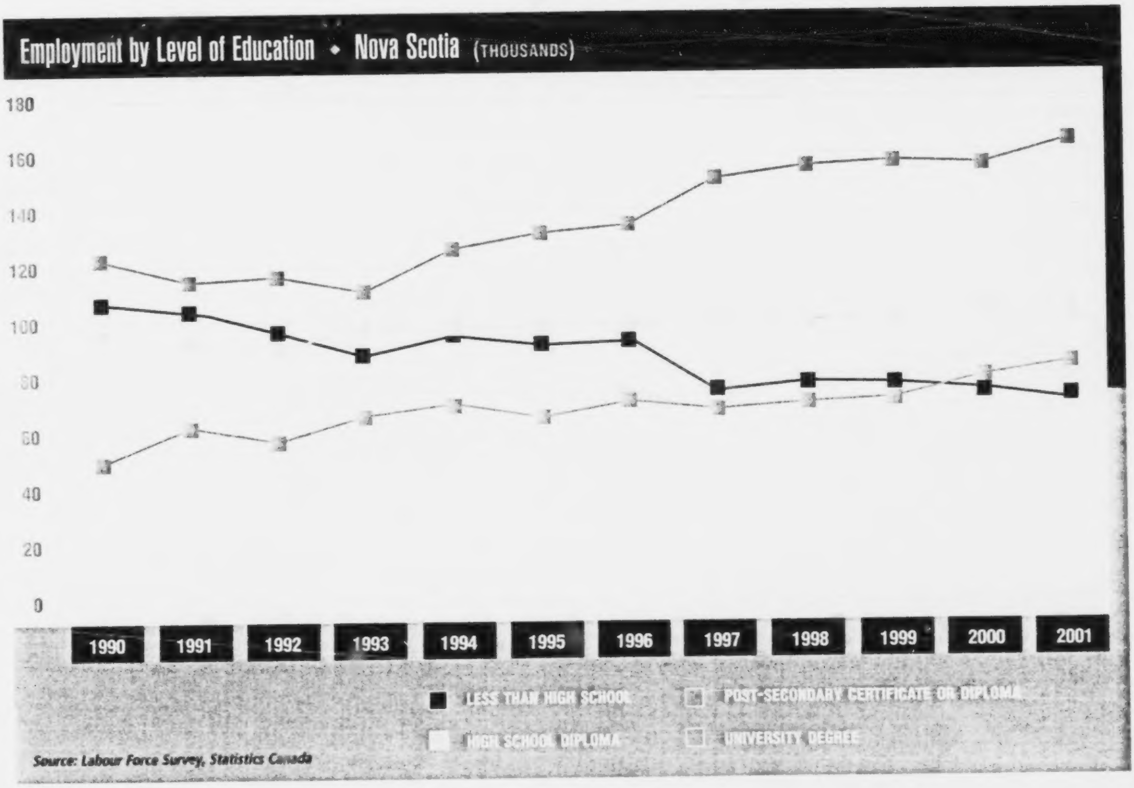
If you don't know this already, take a look at the numbers. As we said, in 2001, only 32% of Nova Scotians without a Grade 12 education were working. The rest were either looking for work, or not active in the labour market. Without a high school diploma, it can be hard to find any work at all. Many of those who are not active in the labour market have simply become discouraged and stopped looking. Only 38.5% of people without a high school diploma are active in the labour market. In contrast, 61% of high school graduates were employed and 67.5% were active in the labour market. More and more, the people finding jobs are those who have completed at least a high school education. The number of jobs filled by high school graduates has increased by about 9.5% between 1990 and 1999.

Less than one-third of high school drop-outs have a job.


Employment Rate by Education Level • Nova Scotia 2001

Source: Labour Force Survey, Statistics Canada

Post-secondary education provides you with the skills and knowledge you need to make it in the 21st century.


Employment by Level of Education • Nova Scotia (THOUSANDS)

Source: Labour Force Survey, Statistics Canada

University graduates enjoy the lowest unemployment rates in Nova Scotia. In 2001, only 4.9% were looking for work.

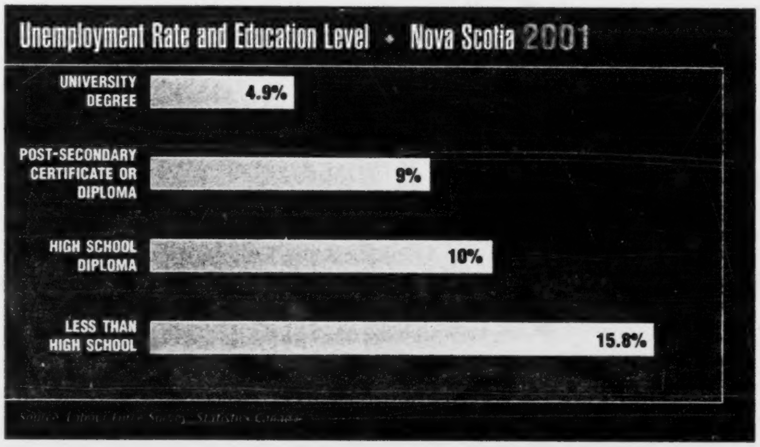
Employers are looking for people with specialized skills and knowledge and often want more than a high school diploma. They are looking for employees with post-secondary education or training. This can mean a diploma or certificate from an apprenticeship program or college, or a university degree. As you can see from the charts on the previous page, employment rates are higher and still growing for those with some form of post-secondary training.

Since 1990, the number of jobs filled by graduates of post-secondary education has increased by more than one-third.

These credentials tell an employer that you can do the job and help make his/her business a success. Even if you want to be independent and run your own business, the skills and knowledge that you get from further studies will help you on your way.

This trend is expected to continue.

So, if you are thinking of leaving school, think about your future. It may be tough going now, but it's worth it.


Unemployment Rate and Education Level • Nova Scotia 2001

Source: Labour Force Survey, Statistics Canada

Education and Unemployment

Need more convincing? Suppose you have the chance to get full-time work if you leave school now? If so, there is something else that you should think about. How long can you keep that job?

You now know that the more education you have, the better your chances of finding a job. It's hard to find work if you have less than a high school education. Even if you do find work, chances are that you will be the first to be laid off when business slows. Will you find yourself without a job and without a high school diploma?

The unemployment rate in Nova Scotia averaged 9.7% in 2001. At nearly 16%, high school dropouts had the highest rate of unemployment.

Unemployment rates are highest among high-school dropouts.

University graduates enjoy the lowest unemployment rates in Nova Scotia. In 2001, only 4.9% were looking for work.

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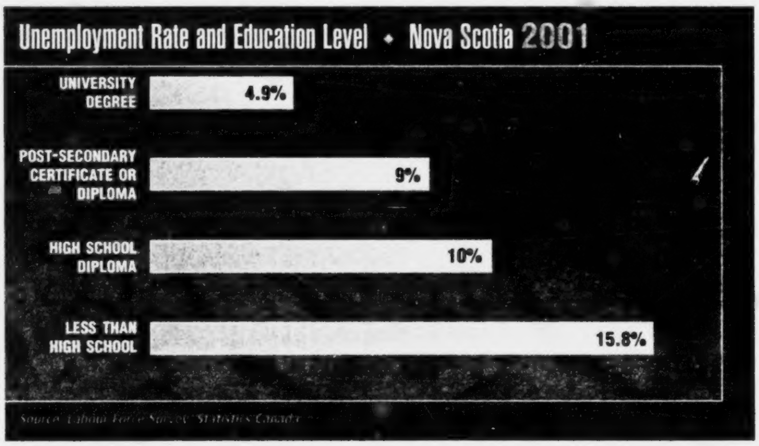
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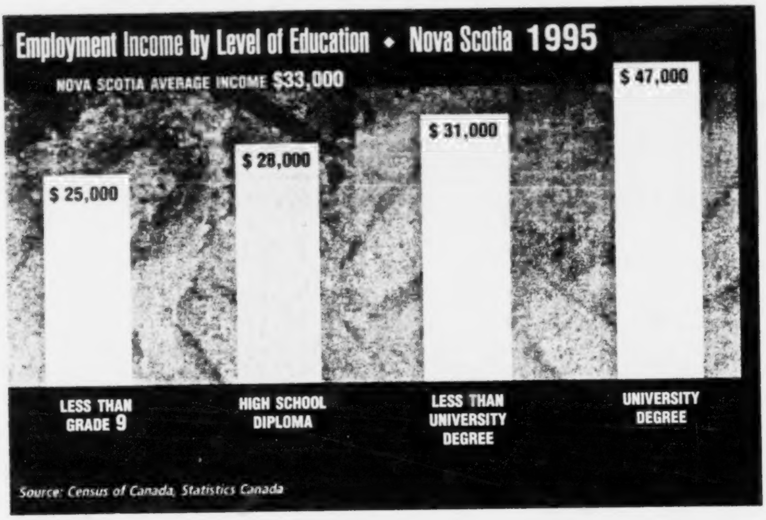

Employment Income by Level of Education ◆ Nova Scotia 1995

Source: Census of Canada, Statistics Canada

The Earnings Gap

Still not convinced? If you're tired of never having money and think you want to start working full-time right now, there is something else you will want to consider:

A good education pays.

When you have a chance to earn money now, it can be hard to pass it up and stay in school. But think about this. In Nova Scotia, as in the rest of Canada, the higher your level of education, the higher your yearly income is likely to be. By dropping out of school to get a job today, you will in fact be losing a lot of money – at least hundreds of thousands of dollars over the course of your working life!

Make the [illegible]

By now, you understand the importance of making the right decisions about your education. These choices affect whether you can ever get a job, whether you can work on a regular basis, and how much money you will be able to earn. And, of course, you want to get paid for doing work that you like to do, even if you're not yet sure what that might be.

Explore Your Options

YOUR FIRST STEP WILL BE TO FINISH HIGH SCHOOL.

If you are struggling with school right now, you should be aware that there is support in your own community. You can discuss your situation with a guidance counsellor, health professional, or any other supportive adult. Personal problems, family problems, lack of motivation, health problems, and poor organizational, time management, or study skills are all factors that can affect your school performance.

If you feel overwhelmed by schoolwork, talk to a trusted teacher. The library and the Internet are also good places to find study guides with tips on study skills and controlling stress.

If you have been out of school for some time and don't have a high school diploma, upgrading options are available that will give you the skills and credits that you need to earn a high school diploma and/or enter a post-secondary program. For more information on these programs, visit the Nova Scotia Department of Education's website at or call 902-424-7287.

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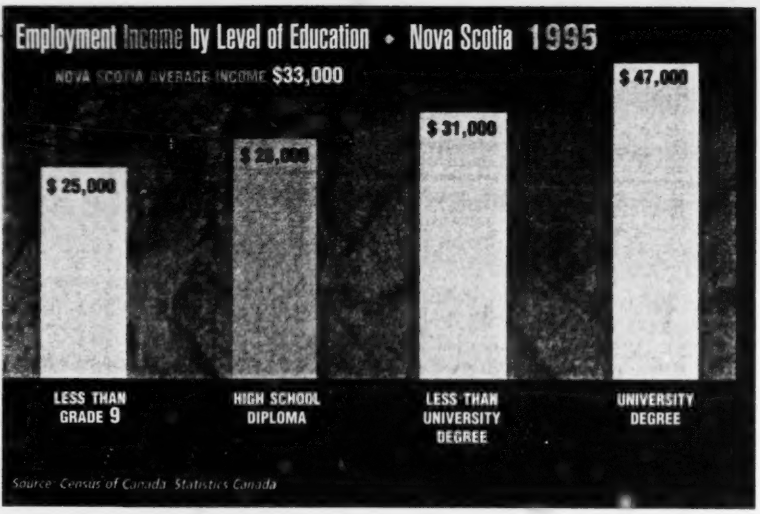

Source: Census of Canada, Statistics Canada

> ...high school dropouts on average have the lowest yearly income.

Women who never finished high school earn the least.

On average, high school graduates earn more than drop-outs and those with some post-secondary education earn even more.

In 1995, university graduates earned the highest average yearly income.

Make the Right Choices

By now, you understand the importance of making the right decisions about your education. These choices affect whether you can ever get a job, whether you can work on a regular basis, and how much money you will be able to earn. And, of course, you want to get paid for doing work that you like to do, even if you're not yet sure what that might be.

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If you are struggling with school right now, you should be aware that there is support in your own community. You can discuss your situation with a guidance counsellor, health professional, or any other supportive adult. Personal problems, family problems, lack of motivation, health problems, and poor organizational, time management, or study skills are all factors that can affect your school performance.

If you feel overwhelmed by schoolwork, talk to a trusted teacher. The library and the Internet are also good places to find study guides with tips on study skills and controlling stress.

If you have been out of school for some time and don't have a high school diploma, upgrading options are available that will give you the skills and credits that you need to earn a high school diploma and/or enter a post-secondary program. For more information on these programs, visit the Nova Scotia Department of Education's website at [illegible] or call 902-424-7287.

Once you have your high school diploma, there are lots of choices for further education and training that will help you get started on the road to a successful career.

COLLEGE... Programs offered by the Nova Scotia Community College, Collège de l'Acadie, and a variety of private career colleges provide skills needed to fill entry-level jobs in specific occupations. These programs are typically one or two years in length and lead to a certificate or diploma.

UNIVERSITY...even though many jobs require a degree, as a rule, university undergraduate degree programs do not focus on training for specific occupations. They aim to develop your intellectual skills and provide a broad understanding of a particular subject. These programs are typically three or four years in length and lead to a Bachelor's degree. Some people who complete their undergraduate degrees continue on to earn higher degrees.

Not all post-secondary training requires many years in a classroom.

APPRENTICESHIP... Consider learning a trade by becoming a registered apprentice. Apprenticeship programs typically last for three or four years and also require that you complete a number of industry-approved technical training courses. Your work as a paid apprentice and your technical training will prepare you for the certification exam. Contact the Apprenticeship Training Division, Nova Scotia Department of Education, at 1-800-494-5651 for further information.

Paying for your post-secondary education

There are many ways to pay for your education. Most students use a combination of resources and strategies...

- Personal savings
- Registered Education Savings Plans
- Bank student loans
- Bursaries
- Family contributions
- Part-time work/full-time study
- Government student loans
- Scholarships
- Full-time work/part-time study

For more information on financing your education...**http://ednet.ns.ca**

Is it a good investment?

Jesse is worried. The only way to get a post-secondary education will be to borrow a lot of money. It will be possible to earn only a little money working part-time and summers before graduation. Would Jesse be better off financially by starting work full-time right after high school?

Post-secondary education is expensive. In the past few years, it has become even more so. The average cost of attending college or university has been going up. The only post-secondary training that doesn't cost a lot of money is apprenticeship training, where you are paid while you work as an apprentice.

You've heard about young people owing a lot of money when they graduate. Is it worthwhile?

If you choose to invest in training for an occupation with good employment opportunities, your additional earnings (over what you could have made without the training) will ensure that training will pay for itself within a few years.

Keep in mind that people in some occupations earn incomes that are much higher than the average for post-secondary graduates, and others earn a lot less. Some diploma training can lead to a higher income than the average for university graduates. If you plan to borrow to pay for your education, you must consider your career goals and training paths with care. Not every occupation provides the same opportunities. If you borrow a lot of money to train for an occupation with high unemployment, few new job openings, and/or a low starting salary, you could struggle financially for years after graduation.

Making Your Choice...

In addition to the many degree programs offered by provincial universities and the certificate and diploma programs offered *through the community* college system, Nova Scotia has dozens of private career colleges and trade schools. There are literally hundreds of choices of certificate, diploma and degree programs. Which one is right for you?

Deciding on an occupation may answer this question for you. Some types of training, like dentistry, are only available at one school in Nova Scotia. Other fields, such as computer programming or business, have many different training options.

Before investing your time and money in any program, it is essential to make sure that the program will provide you with the education and training that meets both your expectations and those of your future employers.

Some questions you may want to ask are...

- Which institutions offer similar programs? How do they compare in cost, time required for completion, and overall satisfaction of graduates?
- Once you complete the program, will you be qualified to work right away? Will this training allow you to advance in your career?
- How many graduate from this program each year? How many of these graduates are working in their field? Which employers have hired graduates of this program in recent years?
- You will want to talk to admissions officers and former students of the program. You should also contact potential employers and/or professional associations. Many employers, professional organizations and trade unions have informative websites.

Post-secondary education is a major investment...it will pay off if you make the right choices.

Post-secondary education is a major investment, not only of money, but of your time and energy. It will pay off if you make the right choices. But you also need the interest and commitment to complete your program. There can be a lot of pressure to enter a program right after high school. However, working for a year or two before making a decision can be a better choice for some people.

Going from school to work

When your parents, and many of your teachers, were in high school, it was assumed that most students would complete their education and then head out into the working world. Within a few months after graduation they would find their first "real" job, an entry-level position where they would [illegible] [illegible] [illegible] [illegible] [illegible]

You know differently. You hear of young people who graduate and don't find work for a long time. You know that some people have trouble finding jobs that match their career goals. New graduates are often competing with experienced workers for jobs. No one is surprised if it takes a few years for a graduate to get settled in the working world.

You've heard the complaint:

can't get a job without experience, can't get experience without a job.

This doesn't have to happen to you.

Developing concrete career goals can ease your transition into the workforce. Choosing the right education and training for the career you want is important. *Career Options* can help you make these choices.

But, how can you give yourself an edge when competing for your first job? Consider these possibilities.

Part-time and summer jobs while attending school.

Job shadowing and work experience opportunities through your school.

Community volunteer work.

Co-operative education programs.

[illegible] part-time or summer business.

You can begin to accumulate work experience while still in school. According to a report from the Canadian Council on Social Development, high school students can work up to 15-20 hours per week and still do as well as, or better than, students who don't have a job. It's great to have extra spending money from part-time or summer jobs. Even a job that seems to have nothing to do with your career goals can provide valuable experience. It's an opportunity to develop "soft skills" such as teamwork, customer service, and self-discipline. It is also a chance to show that you are a responsible person and can take the initiative. Making the best of this chance can give you a head start when you graduate.

Some high schools in Nova Scotia also offer opportunities to experience and learn about the workplace. A number of course options and community-based education initiatives are now offered that help to link the educational experience with the community and the workplace. These include opportunities for job shadowing and work experience.

Volunteer work can also provide valuable experience. Not only can you develop your "people" skills, you may also be able to learn more about yourself and work that interests you.

Co-operative education alternates classroom study with paid work-terms and is part of many community college and university programs. It may take a little longer to complete your program, but you will graduate with real-world learning experience and contacts with employers.

Developing concrete career goals can ease your transition into the workforce. Choosing the right education and training for the career you want is important.

bridging the gap

ALL EMPLOYERS need qualified employees. Thus the key to your future is to develop and maintain a portfolio of marketable skills. The following is a list of valuable employee skills that employers not only want you to have but want you to be continually upgrading...

[1] WRITING SKILLS

[2] INTERPERSONAL, TEAM WORK

[3] ORGANIZATIONAL SKILLS

[4] BASIC COMPUTER KNOWLEDGE

[5] CUSTOMER SERVICE ORIENTATION

[6] MATH SKILLS

Source: Olsten Corp. (Canada and U.S.A.)

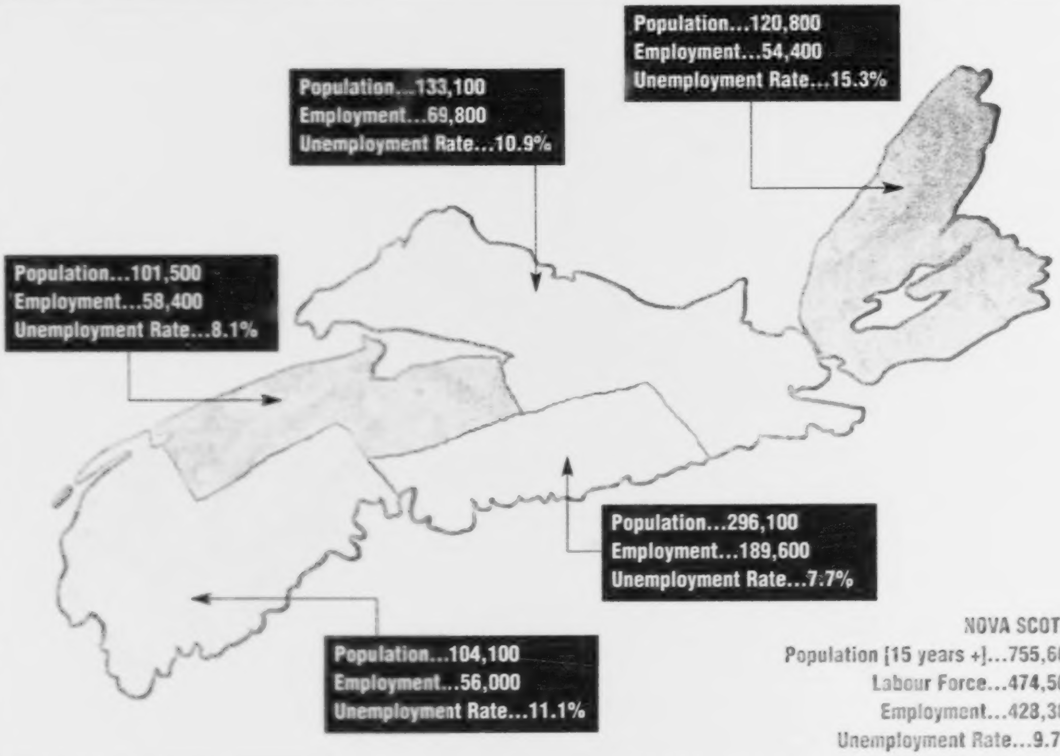
The Nova Scotia labour market

...in 2002, 474,500 nova scotians had jobs

In Nova Scotia, the number of people of working age (individuals 15 years of age and older) was around 755,600 in 2002, and about 474,500 of these people were in the labour force. Around 428,300 of those in the labour force had jobs during this period, while about 46,100 (9.7% of the labour force) were unemployed.

As you can see from the table, most job opportunities are in the Halifax region, which accounts for about 40% of the jobs in Nova Scotia. Labour market conditions vary significantly across the province. Unemployment rates are quite high in Cape Breton, low in the Halifax region, and in between these two extremes in other parts of the province.

2002 Provincial Statistics



Population...120,800
Employment...54,400
Unemployment Rate...15.3%

Population...133,100
Employment...69,800
Unemployment Rate...10.9%

Population...101,500
Employment...58,400
Unemployment Rate...8.1%

Population...296,100
Employment...189,600
Unemployment Rate...7.7%

Population...104,100
Employment...56,000
Unemployment Rate...11.1%

NOVA SCOTIA
Population [15 years +]...755,600
Labour Force...474,500
Employment...428,300
Unemployment Rate...9.7%

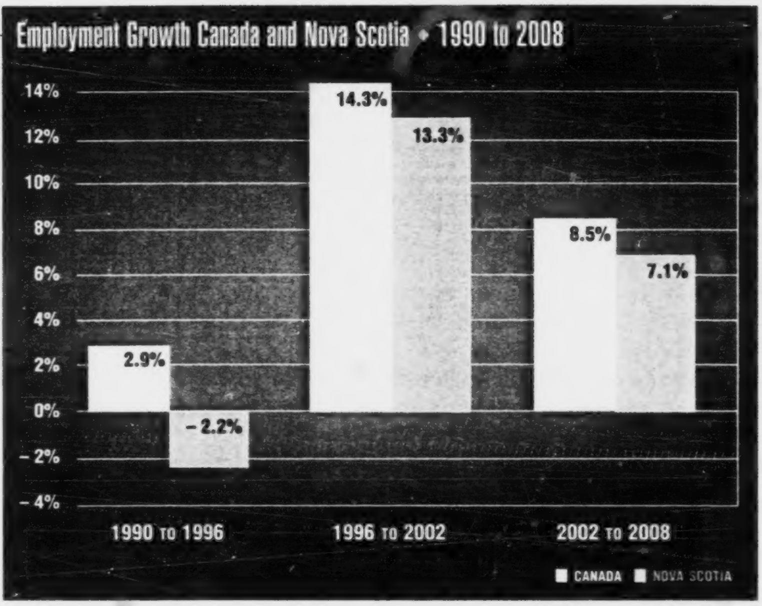
How do jobs become available?

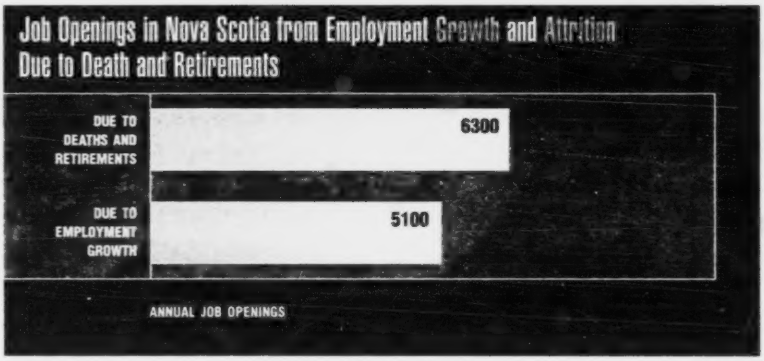
EMPLOYMENT GROWTH... New jobs are more likely to be created when the economy is growing, new businesses are starting up, and old businesses are expanding. When growth slows, there are fewer new businesses and existing businesses reduce their workforce.

For example, the early 1990s were tough times for many Nova Scotians. After peaking at 387,000 in 1990, the number of people with a job dropped by 19,000 over the next three years as economic growth slowed. It took four more years for employment to return to the 1990 level. During these four years, many graduates had a very hard time finding their first job.

ATTRITION... Employment growth is not the only source of job openings. Most job openings occur as a result of attrition. *Attrition* refers to existing jobs that become vacant due to death or retirement, or because the previous employee left to work in another occupation, return to school, or focus on family responsibilities.

Economists predict that employment growth will result in about 5,100 job openings annually over the next few years. The "baby boom" generation, who were hired in large numbers in the 1960s and 1970s, are expected to retire in large numbers over the next five to fifteen years, creating opportunities in a number of occupations. This should result in about 6,300 openings per year. Even more jobs will become available as people change jobs or leave the labour market for other reasons. In fact, more than 15,000 Nova Scotians might be expected to find new jobs in any given month. (Note: *Career Options* estimates of job openings only include those due to employment growth and attrition due to deaths and retirements. Since many people leave their jobs voluntarily, this is an underestimate of those actually available.)


Employment Growth Canada and Nova Scotia • 1990 to 2008


Job Openings in Nova Scotia from Employment Growth and Attrition Due to Death and Retirements

In the long term, the continued development of the offshore oil and gas industry and other economic activities are expected to contribute to an improved outlook for those looking for work. Between 1997 and 2000 employment increased by 35,000 (9.2%) largely as a result of the stimulus of the Sable Offshore Energy Project. While we cannot expect that this rapid pace will continue, it is expected that conditions in the labour market will continue to improve. Overall, even with occasional fluctuations in economic growth, the long-term prospect is for an increasing number of available jobs.

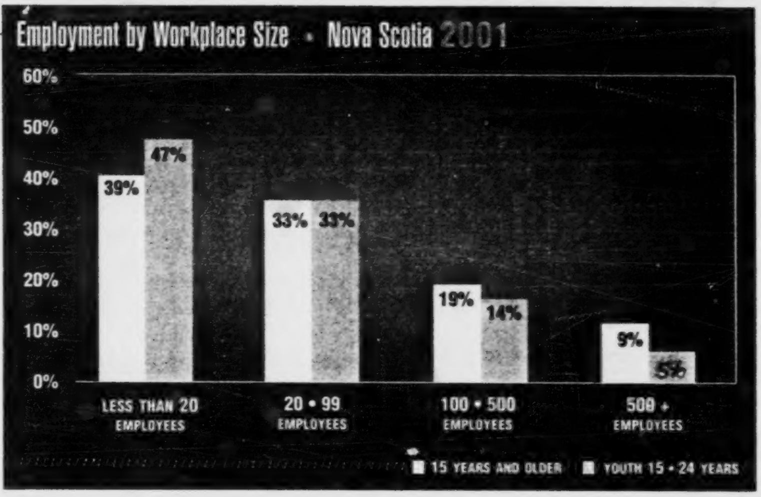
Future employment growth looks good, with a likely average about 5,000 jobs per year.

Where are the jobs?

MOST NOVA SCOTIANS ARE EMPLOYED IN SERVICE INDUSTRIES... Many of us think of the resource sector (our agriculture, fishing, forestry and mining industries) as the most important part of our economy. The resource sector remains an important part of Nova Scotia's prosperity, but it accounts for a smaller and smaller part of employment. A century ago, more than half of Nova Scotians were employed in the resource sector. Today, less than 6% work in farming, fishing, forestry or mining.

Our goods-producing industries (manufacturing, pulp and paper, and construction) are also vital to our economic well-being. About 16% of Nova Scotians are employed in these industries.

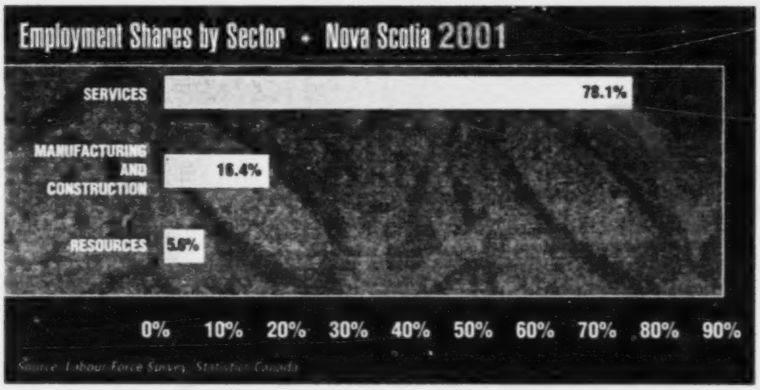
Service industries, where most Nova Scotians work, provide services to individuals and businesses. These include the services provided by government, including health and education; services provided by our stores, restaurants, and hotels; financial services provided by banks and insurance companies; and services provided to business. Today, about three-quarters of all employment opportunities for Nova Scotians are in the service sector.


Employment by Workplace Size • Nova Scotia 2001

MANY NEW JOBS ARE CREATED IN SMALLER FIRMS... When looking for a job, many people tend to limit their efforts to large, well-known firms. But, after years of downsizing, many large firms are still only hiring on a limited basis, while the role of small business in job creation has increased. In recent years people have experienced more success in finding work with smaller firms.

In 2001, 39% of Nova Scotian workers worked in businesses with less than 20 employees. Employment opportunities in workplaces that employ a small number of workers are especially important for young people. Almost half (47%) of employees aged 15 to 24 years were working in these small establishments.

Many of these small businesses do not advertise vacant positions as widely as big companies, or do not formally advertise them at all. In order to find out about all available jobs, you will need to check with more than one source. Besides visiting employment centres and reading the newspaper, you should visit libraries and attend workshops. You should also network: contact unions and professional and trade associations, attend conventions and job fairs, and don't forget to talk to anyone who might be able to provide you with information.


Employment Shares by Sector • Nova Scotia 2001

Source: Labour Force Survey, Statistics Canada

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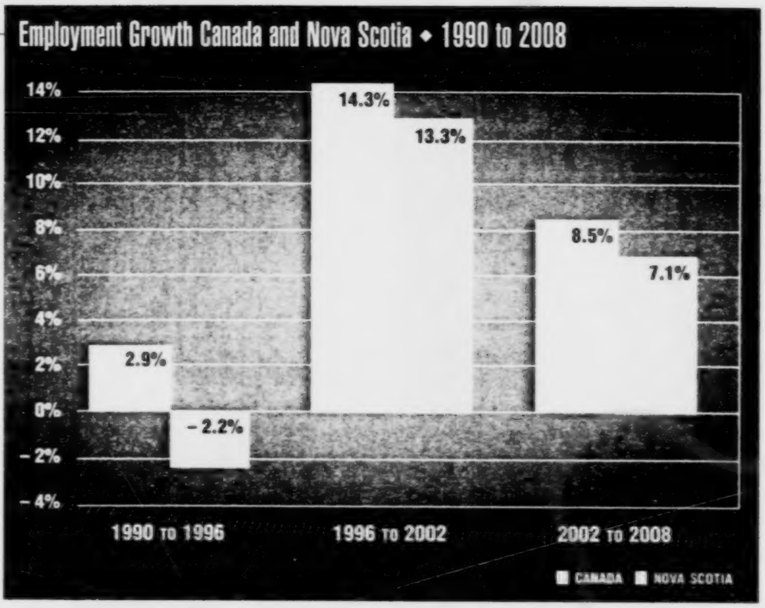
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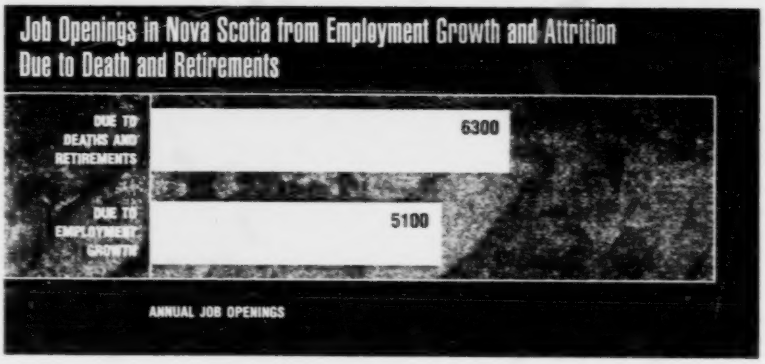
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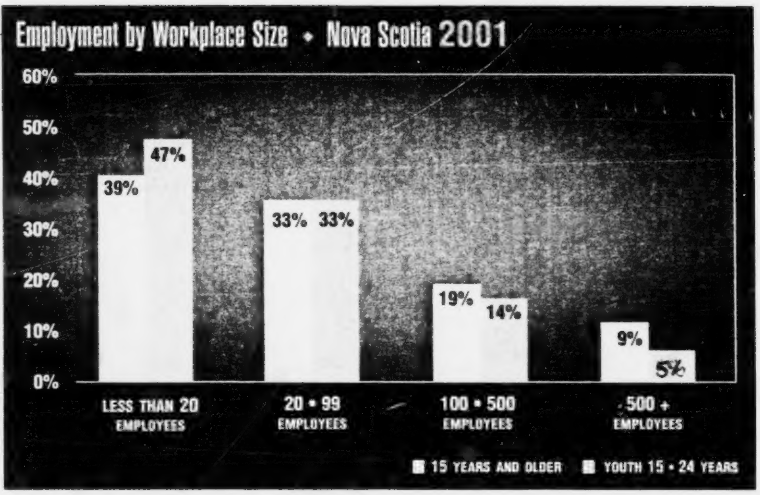
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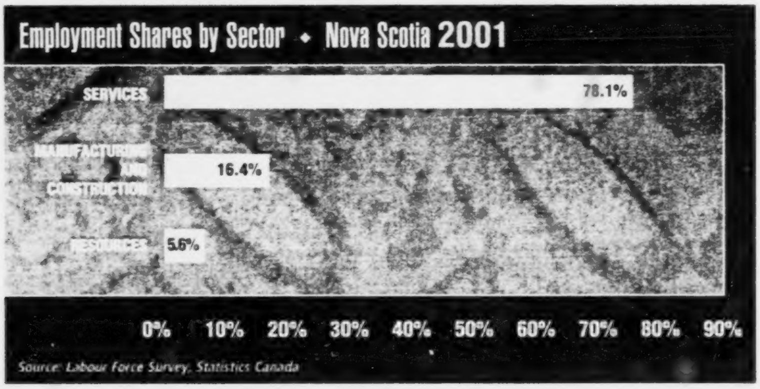

Employment Shares by Sector ◆ Nova Scotia 2001

Source: Labour Force Survey, Statistics Canada

For twenty years now, most employment growth has taken place in smaller firms.

What kind of work are people doing?

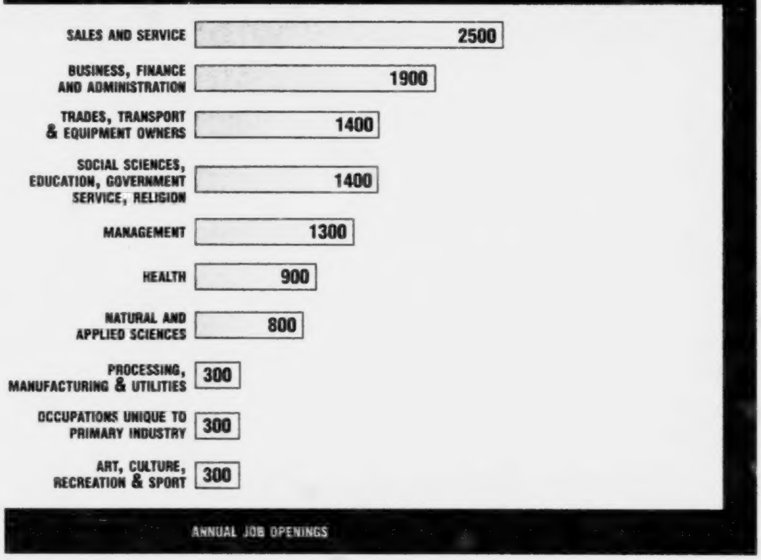
Employment in certain occupations is expected to increase over the next few years.

Among the broad occupational groups, **Sales and Service Occupations** will account for about one-quarter of job openings over the next few years. Many of these jobs will be found in tourism and retail. These jobs also include firefighters, police, hairdressers, and cooks.

There will be a large number of openings in **Business, Finance, and Administration Occupations**, These will include jobs such as customer service representatives in call centres, accountants and bookkeepers, professionals in business services and investment and human resource officers. There will also be opportunities in the **Trades, Transport, and Equipment Operators Occupations** including jobs for construction workers, mechanics, and truck drivers.

And if you look more carefully within the other occupational groups, you will find other occupations where employment prospects are favourable.

Average Annual Job Openings in Nova Scotia by Occupation Type ◆ 2002 to 2007



So where are the hottest prospects? Take a look at What's Hot!

These are just some of the occupations where employment is expected to grow, unemployment is low, and there will be a substantial number of job openings.

Whats Hot! provides you with a starting point of finding where the jobs are. But are there other occupations where employment prospects are good? Answering questions like this is what *Career Options* is all about.

So browse through the occupational profiles and find some opportunities that appeal to you.

What's Hot!

- Administrative Occupations
- College and Other Vocational Instructors
- Computer Programmers and Systems Analysts
- Engineers
- Family Physicians and Specialists
- Managers in Retail Trade, Tourism, and Other Service Industries
- Personal Care Workers, Orderlies and Other Health-Care Assistants
- Professional Occupations in Business Services to Management
- Registered Nurses
- Retail Salespersons and Sales Clerks
- School Teachers and School Counsellors
- Social Workers, Counsellors and Probation Officers
- Technical Occupations in Electronics and Electrical Engineering
- Technical Sales Specialists and Sales Representatives, Wholesale Trade

So how does all this advice apply to you?

Tourism

Offshore Oil and Gas

Health Care

Information Technologies

Fisheries

Almost every day, you'll hear news about what's happening in one of Nova Scotia's industrial sectors. An industrial sector is a group of businesses that provide similar products or services.

...there are more good opportunities than you may have realized.

News stories might talk about what is happening right now or in the next little while. Of course, if you're thinking about your career, you want to be able to find work when you are ready to enter the workforce. You will also need to know what the long-term trends will be, that is, what is expected to happen over the next ten or twenty years. If you choose a sector to work in, you want to know that you will have a bright future working in that area.

As you know, there are different reasons why jobs become available. Industrial growth is only part of the picture.

It's best to get your information from more than one source. ***Career Options*** balances information from a number of sources, and will tell you how many jobs are expected to be created in each occupation, as well as expected unemployment rates.

Most importantly, you will need to match the life you want to live and the work you want to do with the opportunities that are available.

Sam is outgoing, active, and creative, and loves art, nature, and traditional crafts. Sam expects to be happy with a modest lifestyle and wants to stay in rural Nova Scotia. Sam's parents read in the paper that the number of tourists visiting their area is expected to increase once a new tourist attraction is completed. They suggest that Sam consider a career in tourism.

What career options does Sam have?

There are two things Sam should keep in mind. More tourists visiting the area will result in opportunities to start a new business. All industries need people to do many different types of jobs. Some of these jobs only exist in a particular industry, while others may be more general in nature. For example, as you would expect, the tourism industry employs chefs, hotel clerks, and tour guides. It also requires people with skills in management, marketing, and accounting. An increase in tourism may also mean more opportunities in transportation, business support services, entertainment, and retail.

Consider Sam's skills, aptitudes, and preferences. What jobs are available in rural Nova Scotia? What are the labour market conditions and usual working arrangements for these jobs? What else should Sam be thinking about?

If Sam were more interested in sports and physical fitness, or math or science, would your advice be the same?

Changing the way way we work!

We live in a time of tremendous change in the world economy. The world is becoming "a smaller place." We can communicate in an instant with people around the world, and it is becoming easier and cheaper to exchange goods and services with people in other countries. As part of this process of ***globalization***, *our provincial economy is becoming more and more connected and interdependent with other economies across North America and throughout the world.*

New technologies, especially computers and communications systems such as the Internet, continue to transform our lives at home, in school, and in the workplace. More and more jobs require specialized training and education. At the same time, basic literacy skills such as reading, writing and math are becoming even more important.

There have been other changes as well. The rise in service occupations has increased the demand for employees with "people skills". Good communication skills are required to understand and meet the needs of customers and clients. More workplaces require the ability to work as a member of a team and demand responsible employees with good judgement and problem-solving skills.

These changes will continue to create opportunities for new and established businesses. To compete for these opportunities, employers must be able to provide what the customer wants, when they want it. They may hire employees on a short-term basis to meet a sudden demand. When employers need to remain competitive, they need to attract and keep skilled and adaptable employees. One way to do this is to consider alternative working arrangements. For example, hours of work can be flexible, and employees can work at home all or part of the time.

Workers whose skills are in high demand may contract their services to the highest bidder. Instead of working for someone else, some people prefer to take advantage of these opportunities directly, by establishing their own business.

Let's have a look at some of the changes that are taking place.

Self-employment and Entrepreneurship

Are you an opportunity-taker?

Looking for a challenge? Motivated and enthusiastic?

Got an idea for a product or service?

Do you dream about running your own business?

Consider joining the ranks of the self-employed.

Nova Scotia has a long tradition of self-employed farmers, fishermen and merchants. Today, there are even more opportunities to work independently or to start your own business.

Small business continues to be an important source of job creation in Nova Scotia. One of the best ways to create new jobs is to support new entrepreneurs. Business and government leaders, opinion makers, and others interested in the development of Atlantic Canada's economy emphasize the need to develop a stronger entrepreneurial base within our economy — small business is big business in Atlantic Canada.

Since 1990, the number of self-employed workers in Nova Scotia has increased overall by 4,600 (a 9.1% increase).

Why choose self-employment?

Some people choose an occupation that offers the option of self-employment. The self-employed may be professionals, such as accountants or lawyers; tradespersons, such as carpenters or plumbers; providers of services to business, such as bookkeepers or consultants; or artisans producing artwork for sale in their home studio. This can be done in addition to regular employment, or to support yourself when job opportunities are limited.

During the economic downturn of the 1990s, self-employment increased at a rate three times faster than that of job creation and there were up to 10,000 more self-employed in Nova Scotia. Clearly, many people use self-employment as a means to gain experience in the workforce or to keep working when jobs are scarce. Others are self-employed entirely by choice. For many people, self-employment allows them to balance work with other priorities in their life.

Although many start working for themselves as soon they enter the workforce, another path to self-employment is to work for an established employer at the start of your career and go into business on your own once you have established a reputation.

What is an entrepreneur?

Jo is a self-employed carpenter who does small jobs for home-owners on a word-of-mouth basis. Raj is also a self-employed carpenter, but one who sought out and took on bigger jobs, hiring employees to help with the work. Raj keeps abreast of changes in the construction industry in Nova Scotia and is always prepared to compete for a contract. Now the company has clients throughout the Maritimes and dozens of employees, and business continues to grow. Raj is an entrepreneur.

Entrepreneurs are people who run their own businesses, from small, home-based craft businesses to multi-million-dollar computer companies. One of the primary goals of entrepreneurs is to ensure the continued success of their business. To do this, entrepreneurs must be constantly looking for new ways to make their business the best it can be.

The variety of opportunities is almost endless. Examples include retail stores, software development firms, bed and breakfast establishments, hair-dressing salons, publishers, repair shops, employment agencies, recording studios, gas stations, restaurants, fast food outlets and small manufacturing firms.

More than one-third of entrepreneurs in Nova Scotia are women.

Not content with operating traditional businesses, entrepreneurs may develop products at the cutting edge of technology; contribute to the growth of Nova Scotia's culture industries; export to foreign markets; and/or identify and fill a new or previously unmet need of consumers or businesses.

Entrepreneurs see change as an opportunity.

Where are the opportunities?

Most self-employed people run businesses in retail trade and construction. There are opportunities in transportation and warehousing, science and technology, agriculture, forestry and fishing, and manufacturing. Accommodation and food service, finance, insurance, real-estate and leasing, and business management and administrative services are other common choices for owner-run businesses.

Will 2 Win

As a young adult, Will Njoku realized his dream of becoming a professional basketball player when he was selected 41st by the Indiana Pacers in the 1994 NBA Draft. Now he is in business as a sports organizer...with a difference. From his own experience, he understood how young people could be taught life skills by relating them to athletic skills. "Sport is the medium used to communicate to the kids. Once we have their attention, we can teach skills that can be used on and off the court." Will 2 Win travels throughout the region delivering motivational talks, sport camps, and positive coaching clinics to eager participants. "Seeing an adjustment in kids' habits and positive changes in their behaviour" are the most fulfilling aspects of Will's business. Will's motto? "Set your feet, aim high, follow through."

The Soap Girl

Sarah Crawley, a young stay-at-home mom, created The Soap Girl so she could spend more time with her family while working from home. Her aim is to employ other stay-at-home parents who need a flexible schedule. Sarah has a supportive family and a loyal staff. The Soap Girl's product lines include all kinds of bath accessories: bath bombs, crush, soap slices, tub therapy, rubber ducks, spa take-out, butter massage bars, and lip jam, which she sells from craft shows and her website. "I want to make boring baths a thing of the past," says Sarah. Her advice to young entrepreneurs? "Staying focussed, constantly creating, being open to new ideas and understanding your market are key to success." And most importantly, "Enjoy what you do and have fun!"

Adventures East

Fred Stillman turned his love of fun in the outdoors into an outdoor adventure company called Adventures East. His company's slogan is Serious Fun Outdoors! Fred worked for several years in the tourism industry before deciding that he wanted to independent and develop his own ideas. Building on his experiences and network of contacts, he was able to develop and market a successful line of products – focusing on a fun approach to adventures in the outdoors. These include ocean kayaking, coastal hiking, mountain biking, rock climbing, and more. Fred is always investigating new ways to experience the outdoors and his newest adventure is waterfall rappelling. His advice to future entrepreneurs? "When you reach a major obstacle, be creative, get past it, learn from it, and treat it as an accomplishment."

What does it take to become a successful entrepreneur?

A positive attitude is one of the most important assets you can have. Determination, self-discipline and a willingness to work hard are the keys to survival. Entrepreneurs typically demonstrate some of these traits: creativity, initiative, independence, a need to achieve, self-confidence, resourcefulness and a willingness to take calculated risks. Successful entrepreneurs develop their leadership skills, communication skills, interpersonal and problem-solving skills.

You will need basic business skills.

Developing a successful business requires the ability to identify your customers and their needs; develop products or services that meet those needs; hire and work with good employees; and manage money.

Entrepreneurs may need to convince banks, partners or shareholders to invest the money to develop or expand their businesses. To do this, you require a business plan and the ability to explain clearly and persuasively how you expect your business to develop.

TRAINING

Much is being done to support and encourage entrepreneurs in Nova Scotia. Entrepreneurship education is offered in the public school system and through the Nova Scotia Community College. A provincial network of small business and entrepreneurship counsellors has been developed. Self-employment and entrepreneurship are promoted and supported as career options. There are a number of resources and support networks which offer entrepreneurial training and development to youth.

Centre for Entrepreneurship Education and Development
1521 Grafton Street
PO Box 578
Halifax, NS B3J 2S9
Phone: 1-800-590-8481
www.ceed.ednet.ns.ca

Junior Achievement of Nova Scotia
2695 Dutch Village Road
Halifax, NS B3L 4T9
www.jamainlandns.com

Youth Entrepreneurial Scholarship Program
Nova Scotia Economic Development
PO Box 519
1800 Arygle St., 7th Floor
Halifax, NS B3J 2R7
www.gov.ns.ca/econ

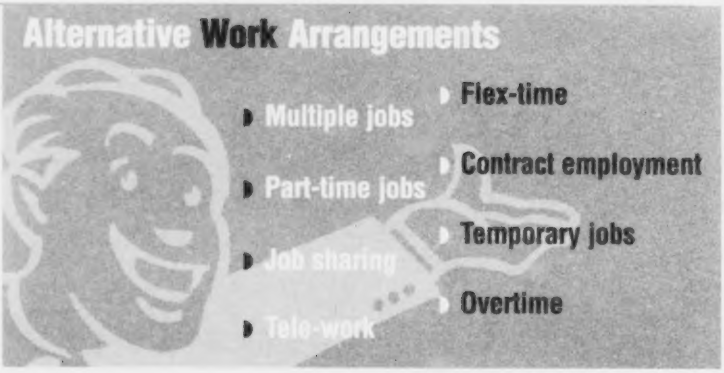
At last! You've earned your diploma or degree. You have a bright future that stretches ahead of you like an unexplored frontier. You are enthusiastic and ready to go.

You can't wait to find your dream job ...

Sounds great... but don't assume that every job opportunity means a regular pay cheque and weekends off.

Work Schedules

Not every job opportunity comes as a full-time, Monday-to-Friday permanent position. Not everyone considers this the best working arrangement. There is a range of alternative work arrangements being considered by employers and employees. There are two important reasons to think about this. As you consider possible careers, you will want to consider the usual working arrangements for that occupation. If you want to work regular daytime hours, you should think twice before training for a career where shift-work is the norm. If security is important to you, you might not want to find yourself in a profession where a common work arrangement is short-term contract work. If your career is not your only priority, you may prefer a job with flexible working hours. And, alternative working arrangements often provide opportunities for young people as they start their careers.



Alternative Work Arrangements

- Multiple jobs
- Part-time jobs
- Job sharing
- Tele-work
- Flex-time
- Contract employment
- Temporary jobs
- Overtime

About 65% of workers in Canada work a regular Monday-to-Friday workweek, 7% work more than 5 days, 9% work fewer than 5 days, and 19% have variable workweeks.

Only two-thirds of workers in Nova Scotia have regular daytime schedules. About one in five works in shifts, and one in seven has irregular daytime schedules.

One in five workers in Nova Scotia works overtime, averaging about 9 hours of overtime per week. Less than half of these workers are paid for this overtime work.

Part-time Employment

Many people have working arrangements that are different than traditional "full-time" employment. For example, part-time employment in Nova Scotia has been increasing over the past two decades.

Part-time employment has risen from 12% of all employment in 1976 to about 18% today.

Part-time employment has increased across all age groups. However, it is young people who are now more likely to work part-time.

Around 42% of employed youth aged 15 to 24 have part-time jobs. They account for more than one-third of all part-time workers.

Women are much more likely to be employed part-time than men are: 27%of women are employed part-time, compared to 10% of men.

About two-thirds of part-time workers say they prefer to work part-time. Working part-time provides enough money for their needs along with the opportunity to do other things: attend school, look after their family, or pursue a hobby. In 1997, 35% of part-time workers would have preferred a full-time job.

> ...alternative working arrangements often provide opportunities for young people as they start their careers.

Temporary Employment

Temporary employment is another work arrangement that is becoming increasingly common. Almost 18% of Nova Scotians work in jobs that aren't considered permanent. This is especially common among youth, of whom 38% work in short-term jobs.

About one-third of temporary jobs are seasonal. Many of these are found in agriculture, fishing and forestry.

The rest are summer jobs for students, contract or casual positions associated with short-term projects, and work with temporary employment agencies.

Temporary and part-time jobs can help launch your career.

Telework and Working from Home

In the last decade, there have been major advances in telecommunication and computer technology, allowing many more people to work from their homes. This arrangement is common among people who are self-employed, and now more employees spend all or part of their time working from their homes. Sometimes this allows for greater flexibility for the employee. They may not need to live within easy commuting distance of their employers and they may have the freedom to set their own working hours. For some people, however, this means that their workday isn't over when they leave the workplace. With this arrangement, it is important to maintain a balance between work and other life priorities.

...to advance their careers, more and more people combine their working life with ongoing learning experiences.

Keeping Your Balance

As you have seen, the choices you make about your education can have a huge impact on your labour market success. These choices can affect your ability to do the kind of work you want and to keep a job, how much money you can earn and, ultimately, the way you live your life.

Be sure to coordinate your plans for your education with your career and life goals.

Nova Scotia's labour market is changing. Technology and the workplace are evolving. You, as an individual, can expect that your priorities might shift over the years. Your success and happiness may depend on your willingness to be flexible and adaptable. You may need to consider alternative working arrangements. On-going technological change will require that you regularly upgrade your skills. As your priorities change, you may want to consider applying your skills to a different career.

Your flexibility and readiness to learn are key to success in the labour market.

Once you have established yourself in the workplace, remember this. The modern workplace changes rapidly and you may find that the skills you need to do your job and even the nature of the work itself will change. To meet this challenge, and to advance their careers, more and more people combine their working life with ongoing learning experiences.

Learning doesn't end when you leave school; it's a part of living.

Business, Finance, and Administration Occupations

Administrative Occupations

Labour Market Conditions

- **Estimated employment in 2002 ....7050**
- **Estimated change in employment between 2002 and 2007 ....GROWING**
- **Estimated average annual number of job openings 230**
- **Estimated rate of unemployment in 2001 ....BELOW AVERAGE**
- **Estimated average annual earnings in 1995................................$33,000**

Typical Occupations

Conference and Meeting Planner
Executive Assistant
Festival Organizer
Human Resources Officer
Office Manager
Property Manager
Purchasing Agent

Nature of the Work

This group includes individuals who perform a wide variety of administrative functions. Conference and meeting planners and festival organizers are responsible for organizing conventions, seminars, trade shows, and other events. They meet with sponsors and organizing committees to plan events and establish budgets; coordinate services; organize registration; and plan entertainment and social gatherings. Executive assistants coordinate administrative procedures, public relations activities, and research functions for elected officials and corporate executives. Human resources (or personnel) officers identify and advertise job vacancies, recruit candidates, and assist in the selection and reassignment of employees. Office managers oversee and implement administrative procedures, establish work priorities, and coordinate services such as office space, supplies, and security services. Property managers coordinate activities related to the management and rental of real estate on behalf of property owners. Purchasing agents buy general and specialized equipment, materials, and business services for use or for processing by their establishment.

Requirements

- A Bachelor's degree or diploma in Business or Tourism and Hospitality Administration would be a definite asset to gain employment as a conference or event planner or festival organizer. Several years of experience in hospitality or tourism administration or in public relations are usually required, and may substitute for formal education requirements.
- Executive assistants should have a university degree in Business, Public Administration, Political Science, or a related area.
- Human Resources officers are required to have a Bachelor's degree or diploma in a field related to personnel management, such as Business Administration, Industrial Relations, Commerce, or Psychology, or they must complete a professional development program in Personnel Administration. Some experience in a clerical or administrative position related to personnel administration may also be required by some employers.
- Office managers are required to have high school completion. Experience in a senior clerical or secretarial position is usually required. A university degree in Business Administration or a diploma in Business or Office Administration would be an asset. Progression to administrative service management positions is possible with experience.
- Several years of administrative experience as a property clerk, contract clerk, or administrative officer are usually required to become a property manager. Property managers may also be required to complete training courses or vocational programs in property management or real estate.
- A Bachelor's degree or diploma in Business Administration or Engineering is often necessary to work as a purchasing officer. Extensive work experience as a purchasing officer is required to work in a management capacity.

Training Paths

- Admission to a Bachelor's degree program usually requires high school graduation with a minimum of five academic courses, including English 12 and Pre-calculus Mathematics or Mathematics 12. Admission to certificate or diploma programs requires a minimum of a high school diploma. You should consult the university or college calendar for information on additional course requirements.
- Mount Saint Vincent University offers a four-year Bachelor of Tourism and Hospitality Management degree with a compulsory cooperative education feature. The University College of Cape Breton (UCCB) offers a three-year Hospitality Administration work/study diploma program.
- Bachelor's degree programs in Commerce, Business Administration, and Psychology are available at most universities in the province.
- Some universities and colleges also offer diploma and certificate programs in various areas of business. Most campuses of the Nova Scotia Community College (NSCC) offer the first year of a two-year program in Business Administration, with second year concentrations in different specialties such as Accounting, Management, Marketing and Information Management. The second year of the program is not offered at all campuses. Most campuses also offer a one-year certificate in Office Information Technology. The entrance requirement to these programs is a high school diploma. You should consult the NSCC academic calendar for details of the various business programs they offer.
- A two-year program in Office Management is available in French through Collège de l'Acadie. Applicants must meet language requirements.
- Programs are also available through private career colleges. Please contact the Private Career Colleges Section, Nova Scotia Department of Education, for information on registered private career colleges and the programs offered.

- A certificate program in Human Resource Management is offered by the Human Resources Association in cooperation with the Continuing Education division of Saint Mary's University. To obtain the certificate, a student must complete the equivalent of eight full-course degree credits. Successful completion of the program or its equivalent is a prerequisite for membership in the Human Resources Association of Nova Scotia. Dalhousie University's Henson College offers a distance education certificate program in Human Resource Management. Contact the college for information on entrance requirements. The NSCC offers a ten-month diploma program in Human Resource Management at the Halifax Campus. To enter, you must have a Bachelor's degree.
- Property administrators usually receive on-the-job training and complete training courses through the real estate agency or company for which they work.
- Training to become a purchasing officer may be provided through three to five years of on-the-job experience in a junior or clerical position. A Professional Purchaser diploma is available through correspondence from the Purchasing Management Association of Canada or the National Institute of Governmental Purchasing. A high school diploma is required for admission, although a university education is preferred.

Skills and Aptitudes

To work in this field, you need excellent communication, organizational, and negotiation skills. You must have initiative and be willing to accept new ideas and take risks. The ability to analyze detailed information accurately and quickly is necessary in order to make decisions. Familiarity with computers would be helpful.

Likely Employers

People in this field may work in a number of industries, although they are most often employed in the health and social service sectors or the business service industry. Property managers are usually employed by owners of rental properties such as apartment or office buildings.

Other Considerations

The majority of these workers work full-time and for the full year.

Related Occupations

Administrative Officers – Government
Clerical Supervisors
Insurance and Real Estate Sales Occupations and Buyers
Managers in Administrative Services
Occupations in Public Relations and Communications
Secretaries, Recorders, and Transcriptionists
Specialists in Human Resources

For Further Information

Canadian Institute of Management
Halifax-Dartmouth Branch
PO Box 162
Halifax, NS B3J 2M4
email: halifax-dartmouth@cim.ca
www.cim.ca

Human Resources Association of Nova Scotia
PO Box 592
Halifax, NS B3J 2R7
www.hrans.org

International Association of Administrative Professionals
PO Box 792, Central RPO
Halifax, NS B3J 2V2
www.chebucto.ns.ca/commerce/IAAP/index.html

International Personnel Management Association—Canada
14868 41st Ave.
Edmonton, AB T6H 5N7
www.ipma-aigp.ca

Nova Scotia Department of Education
Private Career Colleges
PO Box 578
Halifax, NS B3J 2S9
pcc.ednet.ns.ca

Purchasing Management Association of Canada
Nova Scotia Institute
1800 Argyle St.
PO Box 955
Halifax, NS B3J 2V9
pmac.ca

Tourism Industry Association of Nova Scotia
1099 Marginal Rd., Suite 201
Halifax, NS B3H 4P7
www.tians.org

Tourism Human Resource Council
www.tourismhrc.com

Administrative Officers – Government

Labour Market Conditions

Estimated employment in 2002	790
Estimated change in employment between 2002 and 2007	STABLE
Estimated average annual number of job openings	20
Estimated rate of unemployment in 2001	SIGNIFICANTLY BELOW AVERAGE
Estimated average annual earnings in 1995	$37,000

Typical Occupations

Clerk of the Court
Court Registrar
Customs Inspector
Employment Insurance Officer
Immigration Officer
Justice of the Peace
Revenue Officer
Trial Coordinator

Nature of the Work

This group includes government officers who administer and enforce laws and regulations. For example, court officers such as clerk of the court, court registrar and trial coordinator record trial proceedings and judgements; coordinate administrative services and establish work priorities for court staff; schedule court trials and arrange pre-trial conferences; and oversee the maintenance of judicial court records. Customs inspectors determine the admissibility of goods and assess duty at border points, and inform manufacturers and shippers of customs, laws, and procedures. Immigration officers determine admissibility of persons seeking entry into Canada; grant landed-immigrant status; and assist in the removal of deported people.

Justices of the peace issue subpoenas, summonses, and warrants; administer oaths; conduct bail hearings; and perform civil marriages. Revenue officers examine accounting records, systems, and organizational controls to determine payable taxes, compliance with reporting regulations, and existence of fraud; advise on reporting and measurement procedures for goods subject to taxation; and prepare charges for court cases. Employment insurance officers determine the eligibility of persons applying for benefits, monitor payments throughout the duration of the claim, and investigate where there appears to be fraud or abuse.

Requirements

- Court officers are usually required to obtain a university degree in Law, Business, or Public Administration, or a college diploma in Business Administration, Public Administration, or Legal Studies.
- Justices of the peace are appointed by the provincial Attorney General/Minister of the Department of Justice. You should contact the Department of Justice for the requirements to become a justice of the peace.
- To work as a customs, immigration, employment insurance, or revenue officer, you would generally require a Bachelor's degree or college diploma plus several years' administrative or regulatory experience. Completion of specialized government training programs is normally required.

Training Paths

- To enter Bachelor's degree programs, you must successfully complete high school with five Grade 12 academic courses, including English and Mathematics. To enter most certificate and diploma programs, you require at least a high school diploma or equivalent.
- The University College of Cape Breton (UCCB) offers a three-year cooperative education program in Paralegal Technology. The Nova Scotia Community College (NSCC) offers a two-year Paralegal Services diploma program at its Cumberland and Akerley campuses. This program requires high school graduation with English 12.
- Most campuses of the Nova Scotia Community College (NSCC) offer the first year of a two-year program in Business Administration, with second-year concentrations in different specialties such as Accounting, Management, Marketing and Information Management. The second year of the program is not offered at all campuses. Most campuses also offer a one-year certificate in Office Information Technology. The entrance requirement to these programs is a high school diploma. You should consult the NSCC academic calendar for details of the various business programs they offer. A program in Business Information Technology is available in French through Collège de l'Acadie.
- Programs are also available through private career colleges. Please contact the Private Career Colleges Section, Nova Scotia Department of Education, for information on registered private career colleges and the programs offered.
- Many universities throughout the province offer Bachelor's degree programs in Commerce and Business Administration.
- Dalhousie University is the only university in Nova Scotia that offers a degree program in law. The Bachelor's degree in Law (LL.B.) is a three-year program, which must be followed by one year of practical experience with a law firm. Graduates must also complete a seven-week skills course and pass the bar exam before they may practise law. To enter Law School you must have a Bachelor's degree.
- Dalhousie and Saint Mary's universities offer a two-year Master's program in Business Administration (MBA). Dalhousie also offers a Master's of Public Administration (MPA). To enter the MBA or MPA program, you must have a Bachelor's degree.

Skills and Aptitudes

For these occupations, good observational and analytical skills are necessary. You must be accurate and able to pay close attention to detail. Honesty and integrity are important. You also need good communication skills and an ability to work well with others.

Likely Employers

Most people in this field are employed by either federal or provincial governments.

Other Considerations

Most people in these occupations are employed full-time and work between 30 and 40 hours per week. Typical of most government jobs, there are no significant seasonal patterns of unemployment in these occupations and people tend to work for the full year.

Related Occupations

Financial Auditors and Accountants
Managers in Public Administration
Other Occupations in Protective Service
Paralegals
Policy and Program Officers

For Further Information

Legal Information Society of Nova Scotia
5523B Young St., Suite 911
Halifax, NS B3K 1Z7
www.legalinfo.org

Nova Scotia Department of Education
Private Career Colleges
PO Box 578
Halifax, NS B3J 2S9
pcc.ednet.ns.ca

Public Service Commission of Canada
Nova Scotia District Office
PO Box 1664
1505 Barrington St., 17th floor
Halifax, NS B3J 3V3
www.psc-cfp.gc.ca

Assessors and Appraisers

Labour Market Conditions

Estimated employment in 2002	270
Estimated change in employment between 2002 and 2007	STABLE
Estimated average annual number of job openings	5
Estimated rate of unemployment in 2001	SIGNIFICANTLY BELOW AVERAGE
Estimated average annual earnings in 1995	$35,000

Typical Occupations

Business Valuator
Commercial Assessor
Property Valuator
Real Estate Appraiser
Residential Assessor

Nature of the Work

These individuals assess the value of property for purposes of sale, purchase, taxation, or disposal of assets. Business valuators collect and analyze financial records of a business to assess its competitiveness or to estimate its market value. Property valuators determine the value of land, buildings, structures, machinery, equipment, and property improvements for purposes of taxation, sales, litigation, grants, and regional planning. They may specialize in a specific field of assessment such as residential, resource, or commercial/industrial. Field assessors collect assessment data through field inspections. Real estate appraisers determine the value of real estate. They may specialize in a specific type of appraisal such as residential, agricultural, and/or commercial properties appraisal.

Requirements

- Business valuators usually require a Bachelor's degree or diploma in Accounting, Business or Commerce. They may require certification by the Canadian Institute of Chartered Business Evaluators, which requires several years of valuation experience and successful completion of the membership entrance exam. Those with less than five years of valuation experience must complete their Business and Securities Valuation Program.
- Real estate appraisers and residential assessors require a minimum of the Appraisal Institute of Canada (AIC) designation Canadian Residential Appraiser (CRA) or acceptable equivalent. Holders of the CRA designation are authorized to appraise single family dwellings, apartment buildings with four or fewer units, and individual undeveloped residential dwelling sites.
- Field assessors usually require Grade 12, four years' experience in the construction or real estate industry, and completion of six courses in the AIC Real Property Appraisal/Assessment Program.
- Property valuators and commercial assessors are required to obtain a diploma in Assessment or equivalent and/or the AIC designation Accredited Appraiser Canadian Institute (AACI). Holders of the AACI designation may appraise all types of property, including residential, vacant land, and commercial complexes.
- Provincial government property assessors require the AACI designation plus five years' experience or the CRA designation plus eight years' experience.

Training Paths

- Many universities throughout the province offer Bachelor's degree programs in Commerce or Business Administration. Admission usually requires high school graduation with at least five Grade 12 academic courses, including English 12 and Mathematics 12 or Pre-calculus Mathematics.
- Some universities and colleges offer diploma and certificate programs in various areas of business. Most campuses of the Nova Scotia Community College (NSCC) offer the first year of a two-year program in Business Administration, with second-year concentrations in different specialties. The second year of the program is not offered at all campuses. The entrance requirement to this program is a high school diploma. You should consult the NSCC academic calendar for details of the various business program they offer.
- An AIC certificate program in Real Property Appraisal and Assessment is offered through St. Francis Xavier University. The program is delivered by correspondence and usually takes two years to complete. You should contact the university for further program details and entrance requirements. This program can lead to the CRA or AACI designation.
- The Appraisal Institute of Canada also offers an all-encompassing program. University credits at various institutions throughout the province may substitute as AIC equivalents. Many begin with the CRA and advance to the AACI, although it is not a requirement to complete the CRA program to be eligible for the AACI program. You should contact the Nova Scotia Association of the Appraisal Institute of Canada for further program details and entrance requirements.
- Admission to the Business and Securities Valuation program offered by the Canadian Institute of Chartered Business Valuators requires an undergraduate degree with completion of financial accounting or corporate finance courses, and preferably an accounting designation. Completion of the course along with at least two years of suitable valuation experience and successful performance on the membership entrance exam will qualify you as a Chartered Business Valuator.

Skills and Aptitudes

To work in this field, you need to be organized and analytical, and must be able to meet deadlines. You must have knowledge of the value of similar businesses or property in the area. Good communication skills are important. Computer skills would be helpful.

Likely Employers

About half of all assessors and appraisers are employed in the finance, insurance, and real estate sectors; others work for federal, provincial, or municipal public administration agencies.

Other Considerations

Most people in these occupations are employed full-time and for the full year.

Related Occupations

Financial Auditors and Accountants
Insurance Adjusters and Underwriters
Investment Professionals

For Further Information

Canadian Institute of
Chartered Business Valuators
277 Wellington St. West, 5th Floor
Toronto, ON M5V 3H2
Phone: (416) 204-3461
www.cicbv.ca

Nova Scotia Real Estate
Appraisers Association
PO Box 3093 South
Halifax, NS B3J 3G6
www.nsappraisal.ns.ca

Service Nova Scotia and Municipal Relations
Assessment Services
Summit Place
1601 Lower Water St., 4th Floor
PO Box 216
Halifax, NS B3J 2M4
Phone: (902) 424-5671
www.gov.ns.ca/snsmr

Labour Market Conditions

Estimated employment in 2002	3780
Estimated change in employment between 2002 and 2007	GROWING
Estimated average annual number of job openings	160
Estimated rate of unemployment in 2001	BELOW AVERAGE
Estimated average annual earnings in 1995	$24,000

Bookkeepers

Nature of the Work

Bookkeepers maintain financial records for individuals or businesses. Duties may include keeping financial records and establishing and maintaining various accounts; posting journal entries and reconciling accounts; and calculating and preparing cheques for payrolls and other bills. Bookkeepers may also complete tax forms and other government documents; prepare statistical, financial, and accounting reports; and perform other personal bookkeeping services. Familiarity with basic accounting software is often required.

Requirements

Successful completion of high school and an academic program in accounting, bookkeeping, or a related field or completion of two years of a recognized professional accounting program is required to work in this field. Accounting or bookkeeping courses combined with several years of experience as a financial or accounting clerk would normally substitute for the above-noted requirements.

Training Paths

- Most campuses of the Nova Scotia Community College (NSCC) offer the first year of a two-year program in Business Administration, with second year concentrations in different specialties, including Accounting. The second-year of the program is not offered at all campuses. Most campuses also offer a one-year certificate in Office Information Technology (which includes accounting). The entrance requirement to these programs is a high school diploma. You should consult the NSCC academic calendar for details of the various business programs they offer.
- Business accounting or bookkeeping programs are also available at private institutions throughout the province. Please contact the Private Career Colleges Section, Nova Scotia Department of Education, for information on registered private career colleges and the programs offered.

Skills and Aptitudes

To work in this field, you need good mathematical skills and your work must be accurate. Good interpersonal and communication skills are important. Knowledge of computers and new software on the market is needed. You should be cooperative and able to work as part of a team.

Likely Employers

Bookkeepers work in a variety of different business sectors. The most common employers of bookkeepers are in the business services industry or in the automotive vehicles and parts industry. Other employers include the construction trade contracting sector, and retail operations of the food, beverage and drug industry.

Other Considerations

Only one-half of people in this occupation work full-time, and one in five are self-employed. Bookkeepers should be prepared to keep abreast of changing practices and technology.

Related Occupations

Clerical Workers and Office Equipment Operators
Financial Auditors and Accountants

For Further Information

International Association
of Administrative Professionals
PO Box 792, Central RPO
Halifax, NS B3J 2V2
www.chebucto.ns.ca/Commerce/IAAP/index.html

Nova Scotia Department of Education
Private Career Colleges
PO Box 578
Halifax, NS B3J 2S9
pcc.ednet.ns.ca

Clerical Supervisors

Labour Market Conditions

Estimated employment in 2002	4060
Estimated change in employment between 2002 and 2007	GROWING RAPIDLY
Estimated average annual number of job openings	220
Estimated rate of unemployment in 2001	SIGNIFICANTLY BELOW AVERAGE
Estimated average annual earnings in 1995	$34,000

Typical Occupations

Call Centre Manager
Customer Service Supervisor
Inventory Control Supervisor
Mail Room Supervisor
Payroll Supervisor

Nature of the Work

These individuals supervise and coordinate the activities of clerical workers. Duties may include coordinating, assigning, and reviewing the work of clerks; establishing work schedules and procedures; resolving work-related problems; preparing progress and other reports; training workers in job duties, safety procedures, and company policies; and ensuring the smooth operation of computer systems and equipment. Clerical supervisors may perform some of the same duties as the supervised workers.

Requirements

To work in this field, you would usually be required to successfully complete high school. Workers in this occupational group generally have training in a related field and several years of experience before they attain supervisory positions. To become a supervisor, you are usually required to have a thorough knowledge of the work you are supervising, as well as the technology being used. For example, supervisors for general office and administrative support clerks are generally required to have completed high school and some related college or university courses, plus have related work experience. To become a payroll supervisor, you must successfully complete high school and courses in bookkeeping or accounting, and have related work experience.

Training Paths

- Most campuses of the Nova Scotia Community College (NSCC) offer the first year of a two-year program in Business Administration, with second-year concentrations in different specialties such as Accounting, Management, Marketing, and Information Management. The second year of the program is not offered at all campuses. Most campuses also offer a one-year certificate in Office Information Technology. The entrance requirement to these programs is a high school diploma. You should consult the NSCC academic calendar for details for the various business programs they offer. Programs in Office Management and Business Information Technology are available in French through Collège de l'Acadie. Admission to these programs usually requires a high school diploma or equivalent.
- There are various training programs offered at universities throughout the province. For example, Mount Saint Vincent University offers certificate and diploma programs in Business Administration. You must have successfully completed high school with English 12 and Mathematics 12. Some of these institutions have a cooperative education feature integrated into their programs. The University College of Cape Breton (UCCB) has a three-year co-op diploma in Business Technology, including a program in Office Administration.
- Programs are also available through private career colleges. Please contact the Private Career Colleges Section, Nova Scotia Department of Education, for information on registered private career colleges and the programs offered.

Skills and Aptitudes

As there are many occupations in this group, the skills and aptitudes are varied. Leadership, interpersonal, and communication skills are essential. You should also have initiative and be able to make decisions and solve problems.

Likely Employers

Clerical supervisors work in a variety of different business sectors. These supervisors are often employed in the communication industry and in the finance sector. Others work with the federal government and in the health and social services sector.

Other Considerations

Most people in these occupations are employed full-time and for the full year. The duties performed by clerical supervisors are evolving as new technology is introduced. Supervisors and clerks should be prepared to keep abreast of changing office technology and processes.

Related Occupations

Administrative Occupations
Clerical Workers and Office Equipment Operators
Investment Professionals
Managers in Administrative Services
Managers in Financial, Communications, and Other Business Services
Technical Occupations in Libraries, Archives, Museums, and Galleries

For Further Information

International Association
of Administrative Professionals
PO Box 792, Central RPO
Halifax, NS B3J 2V2
www.chebucto.ns.ca/Commerce/IAAP/index.html

Nova Scotia Department of Education
Private Career Colleges
PO Box 578
Halifax, NS B3J 2S9
pcc.ednet.ns.ca

Labour Market Conditions

- **Estimated employment in 2002.....31,560**
- **Estimated change in employment between 2002 and 2007.............GROWING**
- **Estimated average annual number of job openings 850**
- **Estimated rate of unemployment in 2001 ....AVERAGE**
- **Estimated average annual earnings in 1995.................................$25,000**

Clerical Workers and Office Equipment Operators

Typical Occupations

Admitting Clerk
Bank Teller
Computer Operator
Customer Service Representative
Data Entry Clerk
File Clerk
Payroll Officer
Telephone Operator

Nature of the Work

Clerical workers are involved in performing clerical and typing duties. Activities may include bookkeeping and accounting; classifying, storing, and recording information; transferring data into accounts and records; paying and receiving money; preparing cheques for payroll; examining orders for goods and services; operating office equipment; scheduling appointments and meetings; answering telephones; and greeting clients and customers. Hospital admitting clerks interview patients to obtain and process information. Bank tellers process financial transactions and provide information on related banking products and services.

Customer service representatives answer enquiries and provide information regarding an establishment's goods, services, and policies. They also provide customer services such as receiving payments and processing requests for services. File clerks file papers, records, documents, and other material. Payroll officers collect, verify, and process payroll information, and determine pay and benefit entitlements. Individuals in these occupations may operate a variety of office equipment. Computer operators operate computer equipment, produce computer-generated reports, monitor the operation of computer systems and networks, and coordinate their use. Data entry clerks input information from invoices, forms, or records and verify accuracy of data. Desktop publishing operators operate desktop publishing software and equipment to design, lay out, and produce camera-ready copy. Telephone operators operate telephone systems to advance and assist the completion of telephone calls.

Requirements

- Completion of high school and at least some college or university education in business, accounting, computer operations, bookkeeping, or a related area is generally required to work in a clerical occupation. Some occupations may also require on-the-job training.
- Training or experience to achieve standard speed and accuracy in keyboarding or data entry may be required.
- On-the-job training may also be provided for telephone operators.

Training Paths

- Most campuses of the Nova Scotia Community College (NSCC) offer a one-year certificate in Office Information Technology. Most campuses also offer the first year of a two-year program in Business Administration, with second-year concentrations in different specialties. The second year of the program is not offered at all campuses. The entrance requirement to these programs is a high school diploma. You should consult the NSCC academic calendar for details of the various business programs they offer.
- Programs in Office Management and Business Information Technology are available in French through Collège de l'Acadie. Admission usually requires a high school diploma or equivalent and required language competency.
- Some universities and private career colleges also offer diploma and certificate programs in various areas of business.
- Training in computer applications is available at a number of private institutions throughout the province, as well as through community college and university continuing education programs.

Skills and Aptitudes

Office equipment operators require finger dexterity and the ability to sit still for long periods of time. You should not mind repetitive tasks. Good communication and interpersonal skills are also important, along with a willingness to learn and adapt to continually changing equipment and software. Clerical workers require basic mathematical skills and should be comfortable handling basic financial transactions. Your work must be accurate and you should enjoy repetitive tasks. Familiarity with computer software and other office equipment is needed. You should also be cooperative and able to work as part of a team.

Likely Employers

Individuals in these groups work in many different industries, with the largest number of employers being in the finance industry. Many others are employed by the federal government and in the health and social services sector.

Other Considerations

The majority of workers in these occupations are employed full-time and for the full year. The widespread application of computer technology to the duties performed by many clerks means that a solid foundation in computer skills is often necessary for entry into these occupations. As well, workers should be able to adapt to changes in technology.

Related Occupations

Administrative Occupations
Administrative Officers – Government
Bookkeepers
Clerical Supervisors
Occupations in Tourism, Travel, and Accommodations
Secretaries, Recorders, and Transcriptionists
Technical Occupations in Libraries, Archives, Museums, and Galleries

For Further Information

International Association of Administrative Professionals
PO Box 792, Central RPO
Halifax, NS B3J 2V2
www.chebucto.ns.ca/Commerce/IAAP/index.html

Labour Market Conditions

- **Estimated employment in 2002 ....50**
- **Estimated change in employment between 2002 and 2007............GROWING**
- **Estimated average annual number of job openings 5**
- **Estimated rate of unemployment in 2001 ....AVERAGE**
- **Estimated average annual earnings in 1995................................$53,000**

Customs, Ship, and Other Brokers

Typical Occupations

Customs Broker
Gas Broker
Ship Broker

Nature of the Work

These occupations involve negotiating commercial transactions or other services between parties on behalf of clients. Customs brokers prepare import/export documents, and arrange for payment of duties, taxes, storage, and transportation of imported goods. They also provide advice to clients on export and import restrictions, tariff systems, letters of credit, insurance requirements, and other customs-related matters. Gas brokers buy and sell gas on a wholesale basis. Ship brokers buy and sell cargo space; negotiate rates and terms; buy and sell ships on behalf of clients; arrange for insurance coverage for cargo or for ships; and arrange for registration and licensing of ships.

Requirements

- Completion of high school is required, and some university or college courses in Commerce or a related field may be required.
- Customs brokers require several years of on-the-job training and successful completion of a customs broker exam administered by the Canada Customs and Revenue Agency. You must be at least eighteen years of age and be a Canadian citizen to be eligible to work in this field. A customs broker license, issued by Canada Customs and Revenue Agency, is required for an individual or company to operate a customs brokerage business. At least one individual working for the business must be a professional customs broker.
- Ship brokers require several years of on-the-job training.

Training Paths

- The Canadian Society of Customs Brokers offers courses and programs through distance education, including a twelve-month Certified Customs Specialist Program. Enrollment in this program requires at least one year of experience in a Canadian customs environment, and can help you prepare for the Customs Broker Professional Examination administered by the Canada Customs and Revenue Agency. These courses are often sponsored by the employer. You should contact the Canadian Society of Customs Brokers or local brokerage firms for further details on work and educational requirements.
- There are no formal academic training programs to become a ship broker. Training is often provided on the job. It is advised that you call a local ship brokerage company for detailed information on the type of training involved.

Skills and Aptitudes

To work in this field, you need excellent communication and interpersonal skills. You must have good negotiation skills and be attentive to detail. You must be efficient and aware of customer needs.

Likely Employers

Individuals in this small occupation are often employed by companies in the food, beverage, drug, and tobacco wholesaling industry, the business services industry, and the federal government.

Other Considerations

The majority of workers in these occupations work full-time and for the full year. Most work between 30 and 40 hours per week.

Related Occupations

Insurance and Real Estate Sales
  Occupations and Buyers
Investment Professionals

For Further Information

Canada Customs and Revenue Agency
www.ccra-adrc.gc.ca/careers

Canadian Society of Customs Brokers
55 Murray St., Suite 320
Ottawa, ON   K1N 5M3
www.cscb.ca

Labour Market Conditions

- **Estimated employment in 2002 ....4510**
- **Estimated change in employment between 2002 and 2007 ....GROWING**
- **Estimated average annual number of job openings 170**
- **Estimated rate of unemployment in 2001 ...........SIGNIFICANTLY BELOW AVERAGE**
- **Estimated average annual earnings in 1995.................................$45,000**

Financial Auditors and Accountants

Typical Occupations

Controller
Cost Accountant
Environmental Accountant
Forensic Accountant
Manager of Finance

Nature of the Work

Accountants may plan, organize, and administer accounting systems for individuals and establishments. They examine accounting records and prepare financial statements and reports; prepare income tax returns from accounting records; and analyze financial statements and reports to provide financial, business, and tax advice. In addition to these functions, they provide a wide range of business advisory services to employers and clients. Managers of finance direct financial departments that collect, validate, and interpret information to monitor and enhance organizational performance. They work closely with managers from other departments in strategic planning.

Cost accountants specialize in helping businesses improve their profit margin. Environmental accountants establish the costs of compliance with environmental regulations and the financial impact of ecological accidents. Auditors examine and analyze accounts and financial records of individuals and establishments to ensure accuracy and compliance with accounting procedures. They also prepare detailed reports on audit findings and make recommendations to improve accounting and management practices. Controllers are responsible for internal auditing in a business or other institution. Forensic accountants uncover illegal financial maneuvering in business and industry. This may include tracking security breaches in electronic transactions conducted via the Internet.

Requirements

These positions all require a formal accounting designation such as Certified General Accountant (CGA), Certified Management Accountant (CMA), or Chartered Accountant (CA).

- To become a CA, you must have a Bachelor's degree, complete a training program approved by the Institute of Chartered Accountants, and be accredited by the Institute of Chartered Accountants. The CA designation is transferable anywhere within Canada, and an agreement exists to allow mobility into the United States.
- To become a CGA, you must complete a training program approved by the Certified General Accountants' Association and a Bachelor's degree, and meet the practical experience requirements.
- Admission into the CMA program requires a Bachelor's degree in Commerce or Business Administration. Once students are accepted into the CMA program, they must fulfill the pre-professional requirements, pass the national entrance examination, complete the two-year accreditation component, and obtain the necessary work experience in order to obtain the CMA designation.
- Auditors are generally required to have the same type of education and training experience as CGAs, CMAs, or CAs. They may be required to obtain accreditation by the Institute of Internal Auditors.
- Specialized accreditation programs, such as the program in Investigative and Forensic Accounting developed by the Canadian Institute of Chartered Accountants, may be available to accountants with the required training and experience.

Training Paths

- The CGA program consists of four parts: a course component, a two-year practical work experience component, a university degree component, and the PACE 2 comprehensive exam. The program is completed on a distance education basis, with advanced standing in the program being granted for the successful completion of certain university or community college courses. Approximately seventeen courses are required to complete the course component. To enter the program, you must successfully complete high school. The program generally takes from two to six years to complete, depending on the number of exemptions you have earned. Certification is issued by the Certified General Accountants' Association of Nova Scotia after successful completion of all course exams, a university exam, and relevant work experience. The designation is transferable anywhere within Canada.
- In order to be eligible to write the national entrance examination for CMA Canada, you must obtain the required pre-professional courses through a recognized university, or you can register in the ten-month Advanced Management Accounting program offered by the Society. The entrance examination is offered every year in June. After successful completion of the examination, you enter the accreditation process, which consists of two components: professional studies in management and practical experience. These components take two years to complete. Candidates who successfully complete the accreditation process will receive the CMA designation and will be recognized as having the expertise to take on challenging decision-making roles in business, industry, and government.
- The CA program requires a Bachelor's degree and employment with a chartered accounting firm or provincial or federal auditor general's department. These programs may vary from one to three years in length, depending on the number of course exemptions received due to your academic background. You must register with the Atlantic School of Chartered Accountancy and successfully complete courses offered through the school while completing a thirty-month term of diverse work experience. You must have at least a Bachelor's degree to qualify for entrance to the program. Successful completion of your courses, the Uniform Final Examination, and your work term will earn you the CA designation granted through the Institute of Chartered Accountants.

Skills and Aptitudes

To work in this field, you should have excellent organizational, analytical, and communication skills, both oral and written. Good judgement, integrity, and persistence are important. You must have an aptitude for mathematics and be capable of detailed and precise work. Business skills are essential. Knowledge of business and financial software is required.

Likely Employers

About half of all the financial auditors and accountants work with companies offering professional services, such as accounting firms. Others are employed by various departments of the federal and provincial governments.

Other Considerations

Most people in these occupations are employed full-time and for the full year. Employment levels in these occupations tend to remain fairly stable despite changes in economic conditions.

Related Occupations

Bookkeepers
Managers in Financial, Communications, and Other Business Services
Policy and Program Officers

For Further Information

Atlantic School of Chartered Accountancy
Suite 706, Cogswell Tower
PO Box 489
Halifax, NS B3J 2R7
asca.ns.ca

Canadian Institute of Chartered Accountants
277 Wellington St. West
Toronto, ON M5V 3H2
www.cica.ca

Certified General Accountants'
Association of Nova Scotia
5251 Duke St., Suite 416
Halifax, NS B3J 1P3
www.cga-ns.org

CMA Canada–Nova Scotia
1559 Brunswick St., Suite 500
Halifax, NS B3J 2G1
www.cmans.com

Institute of Chartered Accountants
of Nova Scotia
1791 Barrington St., Suite 1101
Halifax, NS B3J 3L1
www.icans.ns.ca

Institute of Internal Auditors
Maritime Chapter
PO Box 95
Halifax, NS B3J 2M4
www.iia-maritime.ns.ca

Insurance Adjusters and Underwriters

Labour Market Conditions

Estimated employment in 2002	710
Estimated change in employment between 2002 and 2007	STABLE
Estimated average annual number of job openings	10
Estimated rate of unemployment in 2001	SIGNIFICANTLY BELOW AVERAGE
Estimated average annual earnings in 1995	$34,000

Typical Occupations

Claim Examiner: Life, Property or Casualty
Insurance Adjusters
Life Underwriter
Property Underwriter

Nature of the Work

These occupations deal with assessing the risk for issuing insurance and with assessing claims on insured items. Insurance claims examiners assess claims for benefits and authorize payments. Insurance adjusters investigate claims and determine the amount of loss or damages covered by insurance policies. Insurance underwriters evaluate new and renewal applications for individual or group life, disability, health, and general insurance. They approve acceptable applications and answer questions from clients and from agents.

Requirements

- Completion of high school and a Bachelor's degree, diploma, some post-secondary education, or several years' experience in the industry are required. Insurance adjusters and claims examiners may also be required to obtain work experience as clerks in a claims department.
- Claims examiners may be required to complete courses offered by the Insurance Claims Association or the Health Insurance Association of America.
- Completion of educational programs through the Insurance Institute of Canada entitles insurance adjusters and claims examiners to professional recognition as Associates of the Insurance Institute of Canada. Several years of on-the-job training and completion of insurance industry courses, such as courses offered by the Life Office Management Association, may also be required by your employer.
- Independent insurance adjusters are required to have a provincial license issued by the Service Nova Scotia and Municipal Relations. After completing courses through the Insurance Institute of Canada, you can apply for an independent adjuster's license from the Financial Institutions Unit, Service Nova Scotia and Municipal Relations.
- Insurance underwriters are required to complete insurance industry underwriting courses and training programs, such as courses offered by the Life Underwriters Association of Canada (LUAC). The Chartered Life Underwriter designation is granted by LUAC.

Training Paths

- Many universities throughout the province offer Bachelor's degree programs in Commerce and Business Administration. To enter a Bachelor's degree program, you must usually have high school completion with five Grade 12 academic courses, including English 12 and Mathematics 12 or Pre-calculus Mathematics. Some universities, the Nova Scotia Community College (NSCC), and a number of private career colleges also offer diploma and certificate programs in various areas of business. To enter a diploma program, you generally require high school graduation or equivalent. You should contact the institution for information on admission requirements.
- Algonquin College in Ottawa, Fanshawe College in London, and Mohawk College in Hamilton, all in Ontario, offer a two-year Business Insurance diploma program in cooperation with the Insurance Institute of Canada. Université Laval in Québec offers a program in French leading to a diploma in Insurance and Financial Products.
- There are also many industry-related academic and training programs offered on the job, such as those mentioned above in "Requirements." These courses are often sponsored by the employer. You should contact a local insurance company or the institutions listed below for further details on programs offered and requirements to enter.

Skills and Aptitudes

To work in this field, you must be organized, analytical, and decisive. You need good communication skills, both written and oral. You need good interpersonal skills and must be able to work as a part of a team. Knowledge of medical terminology and computer skills are helpful.

Likely Employers

Nearly all insurance adjusters and underwriters are employed by firms in the finance, insurance, and real estate industry.

Other Considerations

Most people in these occupations are employed full-time and for the full year. The majority work between 30 and 40 hours per week.

Related Occupations

Clerical Supervisors
Insurance and Real Estate Sales Occupations and Buyers
Managers in Financial, Communications, and Other Business Services

For Further Information

Canadian Association of Insurance and Financial Advisors
350 Bloor St. East, 2nd Floor
Toronto, ON M4W 3W8
www.caifa.com

Canadian Independent Adjusters' Association
5401 Eglinton Ave. West, Suite 100
Etobicoke, ON M9C 5K6
www.ciaa-adjusters.ca

Canadian Life and Health Insurance Association
1 Queen St. East, Suite 1700
Toronto, ON M5C 2X9
www.clhia.ca

Insurance Brokers Association of Nova Scotia
2 Lakeside Park Dr., Unit 9C
Halifax, NS B3T 1L7
www.ibans.com

Insurance Institute of Nova Scotia
100 Main St., Suite 250
Dartmouth, NS B2X 1R5

Service Nova Scotia and Municipal Relations
Financial Institutions Unit
1505 Barrington St.
PO Box 2734
Halifax, NS B3J 3P7
www.gov.ns.ca/snsmr

Investment Professionals

Labour Market Conditions

Estimated employment in 2002	**2760**
Estimated change in employment between 2002 and 2007	**GROWING**
Estimated average annual number of job openings	**150**
Estimated rate of unemployment in 2001	**SIGNIFICANTLY BELOW AVERAGE**
Estimated average annual earnings in 1995	**$56,000**

Typical Occupations

Commodities Trader
Financial Analyst
Mortgage Broker
Portfolio Manager
Securities Agent
Stock Broker
Trust Officer

Nature of the Work

This group includes a variety of occupations that deal with financial matters. For example, financial analysts, financial consultants, and securities agents or investment advisors collect financial and investment information about companies and investments; examine and analyze financial and investment information collected; provide investment advice and recommendations to clients; and may buy and sell stocks, bonds and other financial products on behalf of their clients. Commodities traders and stock brokers or investment advisors buy and sell stocks, bonds, and other securities for investors. Trust officers administer estate, personal, charitable, and other types of trusts. Mortgage brokers obtain financial information from clients, and apply for and negotiate mortgage loans. Portfolio managers manage large investment portfolios for pension funds, mutual funds, corporations or individuals.

Requirements

- A Bachelor's degree in Commerce, Business Administration, or Economics, plus on-the-job training and industry courses/programs are usually required.
- The Chartered Financial Analyst (CFA) designation may be required to become a Financial Analyst. Investment, sales, or other related industry experience may substitute for formal post-secondary education requirements.
- Securities sales representatives and traders require completion of industry investment and sales training programs, the Canadian Securities Course (CSC), and the Conduct and Practices Handbook Course. The CSC course and the Conduct and Practices Handbook Course are both offered by the Canadian Securities Institute.
- Investment dealers, investment traders, financial and investment analysts, and securities agents are required to be licensed by the Nova Scotia Securities Commission to practise.
- Other financial officers may be required to complete various training programs and courses offered by the Canadian Securities Institute, Institute of Chartered Financial Analysts, Investment Funds Institute, Canadian Institute of Financial Planning, Association of Mortgage Brokers, and Trust Companies Institute of Canada. You should consult some local financial institutions, registered securities dealers, or banks to determine what type of training is required to gain employment in your specific field of interest.

Training Paths

- Many universities throughout the province offer Bachelor's degree programs in Commerce, Business Administration, Economics, and Financial Planning. Admission to these programs usually requires high school graduation with completion of five Grade 12 academic courses, including English 12 and Mathematics 12 or Pre-calculus Mathematics.
- Some of these universities also offer more advanced programs. For example, a Master's degree in Business Administration (MBA) is available as a two-year program at Dalhousie and Saint Mary's universities. To enter, you must have a Bachelor's degree and a satisfactory score on the Graduate Management Admissions Test (GMAT).
- Most campuses of the Nova Scotia Community College (NSCC) offer the first year of a two-year program in Business Administration, with second-year concentrations in different specialties. The second year of the program is not offered at all campuses. The Halifax Campus offers a second-year concentration in Investment Management and the Kingstec Campus offers a second-year concentration in Financial Services. The entrance requirement to these programs is a high school diploma. You should consult the NSCC academic calendar for details of the various programs they offer.
- You may also want to check into the various certificate and diploma programs offered through the Continuing Education departments of the various universities throughout the province. For example, Dalhousie's Henson College offers certificate programs in Business Management and Financial Management. The Continuing Education division of Saint Mary's University also offers courses related to business in association with the Certified General Accountants' Association, Institute of Canadian Bankers, Insurance Institute of Canada, and the Real Estate Institute of Canada.
- The Chartered Financial Analyst (CFA) program is available through the Association for Investment Management and Research (AIMR). Successful completion of the three-year distance education program and three years of experience are required.

Investment Professionals

Skills and Aptitudes

To work in this field, you should have excellent organizational, analytical, and communication skills, both oral and written. Good judgement, integrity, and persistence are important. You must have an aptitude for mathematics and be capable of detailed and precise work. Business skills are essential.

Likely Employers

Many investment professionals work in firms involved in the finance and insurance industries while others are employed by companies providing business services.

Other Considerations

Most people in these occupations are employed full-time and for the full year. Nearly one-third of the people in this occupation report working 50 or more hours per week. As financial products become more complicated and people retire earlier, the need for investment professionals is likely to grow.

Related Occupations

Insurance and Real Estate Sales Occupations and Buyers
Managers in Financial, Communications, and Other Business Services
Policy and Program Officers

For Further Information

Canadian Association of Financial Planners
1 St. Clair St. East, Suite 700
Toronto, ON M4T 2V7
www.cafp.org

Canadian Institute of Financial Planning
151 Young St., 5th Floor
Toronto, ON M5C 2W7
www.cifp.ca

Canadian Securities Institute
121 King St. West, 15th Floor
Toronto, ON M5H 3T9
Phone: (416) 364-9130
www.csi.ca

Credit Institute of Canada
5090 Explorer Dr., Suite 501
Mississauga, ON L4W 3T9
www.creditedu.org

Institute of Canadian Bankers
National Office
1002 Sherbrooke St. West
Montreal, QC H3A 3M5
www.icb.org

Investment Dealers' Association of Canada
1791 Barrington St., Suite 1620
Halifax, NS B3J 3K9
email: atlantic@ida.ca
www.ida.ca

Nova Scotia Securities Commission
1690 Hollis St., 2nd Floor
PO Box 458
Halifax, NS B3J 3J9
www.gov.ns.ca/nssc

Loan Officers

Labour Market Conditions

- Estimated employment in 2002.........750
- Estimated change in employment between 2002 and 2007............GROWING
- Estimated average annual number of job openings..............................20
- Estimated rate of unemployment in 2001 ...........SIGNIFICANTLY BELOW AVERAGE
- Estimated average annual earnings in 1995.................................$31,000

Typical Occupations

Credit Officer
Mortgage Officer

Nature of the Work

Loan officers such as credit and mortgage officers examine, evaluate, and process credit and loan applications. They interview applicants for various types of loans; research credit and evaluate applicants' financial status; complete documentation; and approve or reject applications within authorized limits. They also promote the sale of credit and loan services, review and update files, and prepare statements on delinquent accounts.

Requirements

Completion of high school with successful completion of Grade 12 Mathematics plus extensive experience in general banking, or a Bachelor's degree or diploma in Commerce, Economics, or a related area is required to work in this field. Once employed in the field, completion of loan or credit training programs, such as the Fellow Credit Institute (FCI) program or other courses offered through your place of employment, is normally required.

Training Paths

- To enter a Bachelor's degree program, you usually must have high school graduation with five Grade 12 academic courses, including English 12 and Mathematics 12 or Pre-calculus Mathematics.
- Many universities throughout the province offer Bachelor's degree programs in Commerce and Business Administration. Similarly, Bachelor of Arts and Bachelor of Science degrees in Economics, as well as Master of Arts or Master of Science degrees in Economics, are available at many universities throughout the province. You must have at least a Bachelor's degree in Economics or a related field to enter the Master's degree programs in Economics.
- Dalhousie and Saint Mary's universities offer two-year Master's programs in Business Administration (MBA). To enter the MBA program, you must have a Bachelor's degree and a satisfactory score on the Graduate Management Admissions Test (GMAT).

Skills and Aptitudes

To work in this field, you should have excellent organizational, analytical, and communication skills, both oral and written. Good judgement, integrity, and persistence are important. You must have an aptitude for mathematics and be capable of detailed and precise work. Business skills are essential.

Likely Employers

Almost all loan officers work in the finance industry, typically employed by financial institutions such as banks, trust companies, credit unions, or consumer and business financing firms.

Other Considerations

Most people in these occupations are employed full-time and for the full year.

Related Occupations

Managers in Financial, Communications, and Other Business Services.

For Further Information

Credit Institute of Canada
5090 Explorer Dr., Suite 501
Mississauga, ON L4W 3T9
www.creditedu.org

Institute of Canadian Bankers
National Office
1002 Sherbrooke St. West
Montreal, QC M3A 3M5
www.icb.org

Mail and Message Distributing Occupations

Labour Market Conditions

- **Estimated employment in 2002 ....2630**
- **Estimated change in employment between 2002 and 2007 ....STABLE**
- **Estimated average annual number of job openings..............................30**
- **Estimated rate of unemployment in 2001 ...........SIGNIFICANTLY BELOW AVERAGE**
- **Estimated average annual earnings in 1995...............................$27,000**

Typical Occupations

Courier
Letter Carrier
Mail Sorter
Postal Clerk

Nature of the Work

Individuals in these occupations process, sort, and deliver mail, parcels, newspapers, and other items. Couriers and messengers pick up and deliver letters, parcels, and other items within and between establishments. Letter carriers sort and deliver mail, record delivery of registered mail, and collect money for cash-on-delivery parcels. Mail sorters process and sort mail and parcels in post offices, mail processing plants, and internal mailrooms. Postal clerks serve customers and record transactions at sales counters and postal wickets.

Requirements

- Some high school education may be required to work in this field.
- Letter carriers may be required to complete two to four weeks of training provided by Canada Post Corporation.
- A valid driver's license and good driver's abstract are required for some couriers and messengers.

Training Paths

Beyond some high school education, there are no formal academic training paths to work in this field. Training would be provided on the job. You should consult a local branch of Canada Post or a local courier company for further information concerning training paths.

Skills and Aptitudes

To work in this field, you must be organized, responsible, and reliable. Your work must be accurate. Good health and physical stamina may be needed.

Likely Employers

Many people in this field are employed in the postal and courier service industry. Also, employment is often found with companies involved in direct sales and with the printing and publishing industry.

Other Considerations

Less than half of the people in these occupations work full-time and for the full year. The increased usage of electronic mail and other electronic means of exchanging information will limit new job growth in these occupations and affect the nature of the duties performed.

Related Occupations

Clerical Supervisors
Motor Vehicle and Transit Drivers

For Further Information

Canada Post Corporation
Communications
PO Box 1689
Halifax, NS B3H 2B1
www.canadapost.ca

Professional Occupations in Business Services to Management

Labour Market Conditions

- Estimated employment in 2002 1600
- Estimated change in employment between 2002 and 2007 ....GROWING RAPIDLY
- Estimated average annual number of job openings 90
- Estimated rate of unemployment in 2001 ...........SIGNIFICANTLY BELOW AVERAGE
- Estimated average annual earnings in 1995 ....$48,000

Typical Occupations

Advertising Account Executive
Management Consultants
Promotions Specialist

Nature of the Work

Advertising and marketing consultants, such as advertising account executives and promotions specialists, assess characteristics of products or services to be promoted; advise clients on advertising or sales promotion strategies; and develop and implement advertising campaigns. Management consultants analyze and provide advice on managerial methods and structure of a department or organization. They conduct research to determine the efficiency and effectiveness of programs, and they propose improvements or plan the re-organization of operations.

Requirements

A Bachelor's degree or diploma in Business Administration or Commerce, with courses in management, marketing or advertising, is usually required to work in this field. A Master's degree in Business Administration (MBA) may also be required for senior positions. Some establishments may require management consultants to be certified by the provincial management consulting association.

Training Paths

- Many universities throughout the province offer Bachelor's degree programs in Commerce and Business Administration. Admission usually requires high school graduation with a minimum of five Grade 12 academic courses, including English 12 and Mathematics 12 or Pre-calculus Mathematics.
- Dalhousie and Saint Mary's universities offer two-year MBA programs. To enter the MBA program, you must have a Bachelor's degree and a satisfactory score on the Graduate Management Admissions Test (GMAT).
- The Institute of Certified Management Consultants offers a self-study program to those working in the field. This course is often sponsored by the employer and includes eight exams to be completed in three years. Although not mandatory, a Bachelor's degree is preferred for entrance. You should consult the Institute for further details on certification requirements to work in the field of management consulting.

Skills and Aptitudes

To work in this field, you need good interpersonal skills and effective oral and written communication skills. You should be organized and capable of analytical and logical thought. Negotiating skills and research skills are also important.

Likely Employers

Individuals in these occupations are often employed by companies in the fields of business services and telecommunications.

Other Considerations

The majority of these workers work full-time and for the full year. Approximately one-third of people in this occupation are self-employed. Many companies are now contracting with outside firms to provide various professional services. Therefore, the number of people in these occupations who work on a contract basis is likely to increase in the future.

Related Occupations

Financial Auditors and Accountants
Industrial and Manufacturing Engineers
Investment Professionals
Managers in Sales, Marketing, and Advertising
Policy and Program Officers

For Further Information

Association of Canadian Advertisers
175 Bloor St. East, Suite 307 South Tower
Toronto, ON M4W 3R8
www.aca-online.com

Canadian Association of Management Consultants
181 Bay St.
Heritage Building, Floor 2R
Toronto, ON M5J 2T3
www.camc.com

Canadian Institute of Management
Halifax-Dartmouth Branch
PO Box 162
Halifax, NS B3J 2M4
email: halifax-dartmouth@cim.ca
www.cim.ca

Recording, Scheduling, and Distributing Occupations

Labour Market Conditions

- **Estimated employment in 2002 ....6700**
- **Estimated change in employment between 2002 and 2007.............GROWING**
- **Estimated average annual number of job openings 180**
- **Estimated rate of unemployment in 2001 ....BELOW AVERAGE**
- **Estimated average annual earnings in 1995.................................$26,000**

Typical Occupations

Ambulance Dispatcher
Inventory Clerk
Parts Clerk
Production Clerks
Shipping and Receiving Clerk
Traffic Control Clerk
Truck Scheduler

Nature of the Work

This group of occupations is involved with the storage and movement of supplies, and the scheduling and dispatching of emergency vehicles and transportation equipment.

Parts clerks sort, store, and issue parts and supplies for use and for sale. Production clerks coordinate and expedite the flow of work and materials within an establishment; prepare work and production schedules; and monitor the progress of production and construction projects. Truck schedulers prepare routes and schedules with an emphasis on time and cost efficiency. Purchasing and inventory clerks process purchasing transactions and maintain inventories of materials, equipment, and stock. Dispatchers operate telecommunication equipment to dispatch emergency vehicles and to coordinate the activities of drivers and other personnel. Shipping and receiving clerks prepare shipping documents; pack goods for shipping; inspect received goods; and maintain internal record-keeping systems. They may operate forklifts or other equipment.

Requirements

- To work in this field, completion of high school is generally required.
- Shippers, receivers, and parts clerks may also be required to have experience in related clerical occupations or as warehouse workers.
- Traffic control clerks and other production clerks may be required to have previous related experience.
- Purchasing and inventory clerks are usually required to have taken courses in Purchasing Management or Inventory Control. The ability to operate a computerized inventory system is preferred.
- Police and emergency dispatchers are usually required to complete formal on-the-job training. They may also be required to obtain a provincial radio operator's certificate.
- Several years of experience in an appropriate transportation sector may be required to gain employment as a transportation route and crew scheduler.

Training Paths

- A high school diploma is generally a prerequisite for further training.
- Emergency Health Service Dispatchers must be registered as Nova Scotia Paramedics and certified in Advanced Medical Priority Dispatch System (AMPDS). A comprehensive training program is provided. Please refer to the section on Emergency Medical Technicians for information on paramedic training.
- Purchasing and inventory clerks may engage in one of several business degree and diploma programs offered throughout the province. A Professional Purchaser diploma is available through correspondence from the Purchasing Management Association of Canada.
- The University of New Brunswick, Fredericton, offers a diploma in Transportation. A course on the principles of transportation is available through the Purchasing Management Association of Canada.

Skills and Aptitudes

To work in these fields, you must be organized and attentive to detail. Your work must be accurate. Good communication skills are important. You need to be able to work as part of a team. Computer skills and the ability to work with technology may be helpful. Emergency dispatchers must be able to work in a high-stress environment.

Likely Employers

Individuals in these occupations can be found in a variety of business sectors. Some of these employers include the federal government, businesses in wholesale trade, and the transportation sector.

Other Considerations

The majority of people in these occupations work full-time and for the full year.

Related Occupations

Air Traffic Control Occupations
Emergency Medical Technicians
Longshore Workers and Materials Handlers
Managers in Goods-producing Industries
Supervisors, Railway and Motor Transportation

For Further Information

Canadian Association of Supply Chain & Logistics Management
590 Alden Rd., Suite 211
Markham, ON L3R 8N2
www.infochain.org

Professional Logistics Institute
160 John St., Suite 200
Toronto, ON M5V 2E5
www.loginstitute.ca

Purchasing Management
Association of Canada
Nova Scotia District
PO Box 955
Halifax, NS B3J 2V9
www.pmar.ca

Secretaries, Recorders, and Transcriptionists

Labour Market Conditions

Estimated employment in 2002	7730
Estimated change in employment between 2002 and 2007	DECLINING
Estimated average annual number of job openings	0
Estimated rate of unemployment in 2001	BELOW AVERAGE
Estimated average annual earnings in 1995	$24,000

Typical Occupations

Court Recorder
Executive Secretary
Hansard Reporter
Legal Secretary
Medical Secretary

Nature of the Work

Secretaries perform a variety of administrative duties in support of managerial and professional employers. Activities may include scheduling appointments and maintaining a calendar; answering telephones; receiving and answering correspondence; ordering office supplies; maintaining files and record management systems; and preparing and managing budgets, expense accounts, and financial records. Court recorders and Hansard reporters record and transcribe proceedings of courts or legislative assemblies and committees, and prepare dictated reports that require knowledge of legal terminology. Executive secretaries prepare routine correspondence, greet visitors, record and prepare minutes of meetings, make reservations, and arrange travel schedules.

Legal secretaries require knowledge of legal records and procedures. They control confidential documents and materials, and review and proofread outgoing documents to ensure compliance with legal procedure. They may attend court, meetings, or conferences to take notes or minutes. Medical secretaries interview patients to complete forms, documents, and case histories; initiate and maintain confidential medical records and files; and type medical records and other reports requiring knowledge of medical terminology.

Working in these occupations may cause back and neck strain due to sitting for long periods of time, as well as eye strain from computer screens.

Requirements

- Generally, you should have formal secretarial training or previous clerical experience to work in these fields. This training often includes completion of courses in Business English, Typing, Accounting and Office Procedures.
- Court recorders and medical transcriptionists may be required to complete a college program in Court Reporting or Medical Transcription.

Training Paths

- You must have successfully completed high school to enter a certificate or diploma program.
- Most campuses of the Nova Scotia Community College (NSCC) offer a one-year certificate in Office Information Technology. Most campuses also offer the first year of a two-year program in Business Administration, with second-year concentrations in different specialties. The second year of the program is not available at all campuses. The entrance requirement to these programs is a high school diploma. You should consult the NSCC academic calendar for details of the various business programs they offer. Programs in Business Information Technology and Office Management are available in French through Collège de l'Acadie.
- The University College of Cape Breton (UCCB) has a three-year co-op diploma in Business Technology, including a program in Office Administration.
- Many private institutions throughout the province offer training programs and courses in these fields. Please contact the Private Career Colleges Section, Nova Scotia Department of Education, for information on registered private career colleges and the programs offered.

Skills and Aptitudes

To work in these occupations, you need excellent grammar and communication skills. Accurate and fast typing speed is essential. You should have a working knowledge of computers, word processing software, and general office equipment. Interpersonal skills and the ability to work with others are important.

Likely Employers

People in this field work in a number of industries. Among the most frequent employers are hospitals, educational organizations, federal and provincial government departments, and companies that provide professional services.

Other Considerations

The majority of workers in these occupations work full-time and for the full year. A standard 40-hour week is typical for this type of work. Due to the wide variety of businesses that employ people in these occupations, there are no significant seasonal patterns of unemployment evident. Also, the variety of potential employers means that workers have the flexibility to seek employment in many different types of business and in many locations. Advances in technology will likely affect the duties performed by secretaries. Therefore, workers in these occupations should have a solid foundation in computer skills and be prepared to adapt to rapid technological changes.

Related Occupations

Administrative Occupations
Clerical Workers
  and Office Equipment Operators
Paralegals

For Further Information

International Association
of Administrative Professionals
PO Box 792, Central RPO
Halifax, NS B3J 2V2
www.chebucto.ns.ca/Commerce/IAAP/index.html

Nova Scotia Department of Education
Private Career Colleges
PO Box 578
Halifax, NS B3H 4P7
pcc.ednet.ns.ca

Specialists in Human Resources

Labour Market Conditions

- **Estimated employment in 2002.........940**
- **Estimated change in employment between 2002 and 2007....GROWING RAPIDLY**
- **Estimated average annual number of job openings..............................50**
- **Estimated rate of unemployment in 2001 ...........SIGNIFICANTLY BELOW AVERAGE**
- **Estimated average annual earnings in 1995.................................$46,000**

Typical Occupations

Compensation Research Analyst
Employee Relations Officer
Employment Equity Officer
Job Analyst
Labour Relations Officer

Nature of the Work

Specialists in human resources develop and evaluate human resources and labour relations policies, programs, and procedures. They advise managers and employees on personnel matters. They negotiate collective agreements; administer benefit programs and employment equity programs; and research and prepare occupational classifications, job descriptions, and salary scales. These specialists may also coordinate employee performance and appraisal programs.

Requirements

- A university degree or college diploma in Human Resources Management or Personnel Management is generally necessary to work in this field. You may also gain employment in this field by completing a Bachelor's degree or diploma in a related field such as Business Administration, Industrial Relations, Commerce, or Psychology, and completing a professional development program in Personnel Administration.
- A Master's degree in Business Administration or Public Administration with a concentration in Human Resources or Organizational Behaviour is advised for management positions.

Training Paths

- Many universities throughout the province offer Bachelor's degree programs in Commerce, Business Administration, and Psychology. Many universities and colleges also offer diploma or certificate programs in several areas of business. To enter the Bachelor's degree or diploma programs, you usually require high school completion with a minimum of five Grade 12 academic courses, including English 12 and Mathematics 12 or Pre-calculus Mathematics. Please contact the institutions for additional information on admission requirements.
- Dalhousie and Saint Mary's universities offer two-year Master's programs in Business Administration (MBA) and Psychology. Dalhousie University also offers a Master of Public Administration program. To enter the MBA program, you must have a Bachelor's degree and a satisfactory score on the Graduate Management Admissions Test (GMAT). The GMAT may not always be required for entrance into the Public Administration program. To enter the Psychology program at the Master's level, you must have at least a Bachelor's degree and may be required to complete the Graduate Records Examination.
- A certificate program in Human Resource Management is offered by the Human Resources Association in cooperation with the Continuing Education division of Saint Mary's University. To obtain the certificate, a student must complete the equivalent of eight full-course degree credits. Successful completion of the program (or its equivalent) is a prerequisite for membership in the Human Resources Association of Nova Scotia.
- Dalhousie University's Henson College offers a distance education, six-credit certificate program in Human Resource Management. Contact the college for information on entrance requirements.
- The Nova Scotia Community College (NSCC) offers a one-year diploma program in Human Resource Management at the Halifax Campus. To enter, you must have a Bachelor's degree or equivalent.

Skills and Aptitudes

To work in this field, you need good interpersonal skills as well as effective oral and written communication skills. You should be organized and capable of analytical and logical thought. Negotiating skills and research skills are also important.

Likely Employers

Human resources specialists are often employed by companies that provide services to businesses and individuals. Also, many work with the federal and provincial governments.

Other Considerations

Most workers in these occupations work full-time and for the full year. Increasing emphasis on the importance of achieving employment equity, meeting stricter standards in health and safety, and administering employee benefit packages will help create job opportunities for people in this occupation.

Related Occupations

Administrative Occupations
Managers in Administrative Services
Professional Occupations in Business Services to Management

For Further Information

Canadian Association of Management Consultants
181 Bay St.
Heritage Building, Floor 2R
Toronto, ON M5J 2T3
www.camc.ca

Human Resources Association of Nova Scotia
PO Box 592
Halifax, NS B3J 2R7
www.hrans.org

International Personnel Management Association–Canada
14868 41st Ave.
Edmonton, AB T6H 5N7
www.ipma-aigp.ca

Canadian Forces

Canadian Forces Occupations

Requirements

You must be a Canadian citizen, of good character, and able to meet the physical fitness standards to enter the Canadian Forces (CF). You must also meet the minimum requirement on CF aptitude tests and CF medical enrolment standards. To join the Primary Reserve, you must be at least 16 years old. To join the Regular Force, you must be at least 17 years old.

To be a non-commissioned member (NCM), you must have successfully completed a minimum of Grade 10. To become a Regular Force officer, you must have successfully completed a minimum of a three-year university Bachelor's degree, or be admitted to the Regular Officer Training Plan (ROTP) or Continuing Education Officer Training Plan (CEOTP) if you hold only a Grade 12 diploma. However, you may join the Primary Reserve while in university under the Reserve Entry Scheme for Officers.

In addition to these basic requirements, there may be other age and education requirements that are specific to an occupation or entry plan. There are approximately 80 different occupations for NCMs and officers in the CF.

Training Paths

Regular Forces: When you join the CF, you must complete basic training at the Canadian Forces Leadership and Recruit School in St. Jean, Quebec. Basic training is tough. It is designed to introduce you to the military, get you in top physical shape, and teach you basic military skills and discipline. It is recommended that you start a fitness program before entering basic training. The type and amount of further training will depend on the occupation you choose and will be provided at one or more of the many military teaching units throughout Canada. The time it takes to become qualified in the basics of an occupation may vary from a couple of months to several years.

The CF offers fully subsidized education to certain outstanding applicants. Some of these entry plans are:

1. *Regular Officer Training Plan (ROTP)* subsidized education for up to four years to complete a Bachelor's degree at the Royal Military College of Canada or occasionally at a civilian university. Following this education, you will receive a commission as a CF Officer and be employed in the CF for five or more years.
2. *Medical Officer Training Plan (MOTP)* subsidized education for the last three years of medical school and a one- or two-year residency. When this is completed, you will be employed as a Medical Officer (doctor) in the CF.
3. *Dental Officer Training Plan (DOTP)* subsidized education for four years of dental school. Following dental school, you will be employed as a Dental Officer (dentist) in the CF.

The CF credits advanced academic training through the Skilled Trades Entry Program (STEP). This offers you the chance to join the CF if you are a qualified technician/technologist from a recognized school or hold a Journeyman's certification.

Reserves

The part-time component of the CF is the Primary Reserve (PRes). People in the Reserves train part-time on nights and weekends from fall to spring and full-time for several weeks during the summer months. Often this training is done together with the Regular Force (full-time) members. You may be a member of the PRes while a full-time student or in the workforce. The Component Transfer program allows working members of the Reserves to transfer to a full-time job in the Regular Force. Landed immigrants may apply to the Reserves.

Skills and Aptitudes

CF members must be able to work in demanding situations, sometimes for long periods.

Self-motivation, discipline, and the ability to perform under stress are essential. You must be able to take direction but also have leadership skills. The CF is a team and its members need to work together to accomplish tasks. Therefore, you should be able to cooperate and communicate well with others. Candidates must always be willing to accept a challenge, whether it be a physical or mental challenge. You may discuss the skills and aptitudes needed for specific occupations with CF recruiting personnel. PRes experience is considered an asset when you apply to join the Regular Force.

Employment

Nationally, the CF comprises approximately 60,000 Regular Force members and 35,000 Primary Reserve members.

Earnings Potential

The annual salary will be dictated by the candidate's rank. The salary will increase with rank and with each year an individual remains in the CF.

NCM

Estimated annual earnings for a new Private in 1999: $22,872

Estimated annual earnings for a new Corporal in 1999: $38,436

Officers

Estimated annual earnings for an Officer Cadet in 1999, while in university: $13,164

Estimated annual earnings for an ROTP graduate (Second Lieutenant) in 1999: $37,752.

Estimated annual earnings for a new Captain in 1999 (attainable in four years): $52,152

For Further Information

Canadian Forces Recruiting Centre Halifax
5251 Duke St., Suite 502
Scotia Square
Halifax, NS B3J 1P3
Phone: 1-800-856-8488
www.dnd.ca

Health Occupations

Labour Market Conditions

Estimated employment in 2002	270
Estimated change in employment between 2002 and 2007	GROWING
Estimated average annual number of job openings	10
Estimated rate of unemployment in 2001	BELOW AVERAGE
Estimated average annual earnings in 1995	$43,000

Audiologists and Speech–Language Pathologists

Nature of the Work

Audiologists diagnose hearing difficulties, select and fit hearing aids, design and implement hearing rehabilitation strategies, and provide information on noise exposure and hearing conservation. Speech–language pathologists diagnose, plan, and implement treatment in communication and swallowing disorders. They design and employ augmentative and alternative communication strategies. They facilitate accent reduction, and consult regarding language stimulation, inclusion strategies, and teaching adaptation for students with language impairments. Individuals in these occupations may conduct research related to hearing, speech, language, and other communication disorders.

Requirements

To work in this field a Master's degree in either Speech Language Pathology or Audiology is the desired education standard, and is a requirement for certification with the Canadian Association of Speech Language Pathologists and Audiologists (CASLPA). Most employers require membership in and certification by CASLPA for employment.

Training Paths

- Your high school credits should include English 12, Mathematics 12 or Pre-calculus Mathematics, and Grade 12 science courses, with high marks in all subjects as there is strong competition for entry into these programs. Volunteer experience in speech–language pathology or audiology is highly recommended.
- Admission to the Master's programs requires completion of a Bachelor's degree in Psychology, Educational Psychology, Linguistics, Special Education, Natural Science, Nursing, Health Sciences, or other behavioural or health-related disciplines.
- Dalhousie University offers a three-year Master of Science degree in Human Communication Disorders in Audiology or Speech Pathology. Applicants require at least a B average overall in their Bachelor's degree program with higher than a B average in their major courses.

Skills and Aptitudes

To work in this field, you should have an interest in health and in caring for the special needs of people. Ingenuity, initiative, and imagination are needed to adapt activities to individual needs. You should be patient, self-disciplined, and resourceful. The ability to inspire confidence and to motivate clients is important. A strong sense of responsibility, good judgement, and communication skills are also necessary.

Likely Employers

Most people in this field are employed by educational facilities, healthcare organizations, private health clinics, or other health and social service agencies.

Other Considerations

The majority of workers in these occupations work full-time and for the full year.

Related Occupations

Occupations in Therapy and Assessment
Other Medical Technicians
and Technologists

For Further Information

Canadian Association of
Speech–Language Pathologists
and Audiologists
200 Elgin St, #401
Ottawa, ON K2P 1L5
www.caslpa.ca

Speech and Hearing Association
of Nova Scotia
PO Box 775, Central CRO
Halifax, NS B3J 2V2

Chiropractors

Labour Market Conditions

Estimated employment in 2002	90
Estimated change in employment between 2002 and 2007	GROWING
Estimated average annual number of job openings	5
Estimated rate of unemployment in 2001	SIGNIFICANTLY BELOW AVERAGE
Estimated average annual earnings in 1995	$62,000

Nature of the Work

Chiropractors focus on the spine in relation to the total body, and specialize in the understanding and treatment of its component bone structures, muscles, and nerves. Chiropractors provide conservative management of neuro-musculo-skeletal disorders and related ailments including, but not limited to, back, neck, limb, and head pain. Chiropractors are concerned with the care of the entire body and are trained in physical diagnosis, including the use of x-rays and laboratory analysis. They formulate clinical impressions of the patient's state of health, concentrating on spinal and structural assessment. Chiropractors primarily are expert providers of spinal manipulation and other therapeutic manual adjustments.

Requirements

Completion of a four- or five-year program at an accredited chiropractic educational institution and certification by the Canadian Chiropractic Examining Board are required to work in this field. You must successfully complete the national board examinations for certification. Registration with the Nova Scotia College of Chiropractors is required to work in this field in Nova Scotia.

Training Paths

- Your high school credits should include English 12, Mathematics 12 or Pre-calculus Mathematics, and Grade 12 science courses.
- Several years of post-secondary study are required for admission in a chiropractic program. Three-year undergraduate programs are available at all universities in Nova Scotia. Undergraduate courses may be in any discipline of study. However, it is recommended that you successfully complete one full-year course in biology and organic chemistry and one half-course in introductory psychology, with the remaining courses in the humanities and/or social sciences.
- Nova Scotia does not offer a chiropractic program. However, there are two chiropractic educational institutions in Canada: a four-year program at the Canadian Memorial Chiropractic College (CMCC) in Toronto and the Chiropractic Doctorate Program at the Université du Québec à Trois-Rivières (UQTR). The programs lead to the professional credential of DC (Doctor of Chiropractic). There are also chiropractic colleges in the U.S. and overseas.

Skills and Aptitudes

To work in this field, you should be interested in the health and well-being of others. An interest in science, especially anatomy and physiology, is also important. You must be patient, tolerant, and sensitive to the needs of others. Good coordination and manual dexterity are necessary. Physical stamina may be needed as well.

Likely Employers

Almost all chiropractors have their own private practices, although some work in group practices.

Other Considerations

The majority of people in this occupation work full-time and for the full year. Chiropractors are often self-employed and administer their services through private practices. Demand for services may rise with increases in the elderly population and in the number of people seeking treatment for stress-related muscular, skeletal, and nervous system disorders.

Related Occupations

Family Physicians and Specialists
Occupations in Therapy and Assessment
Other Professional Occupations in Health Care
Practitioners in Natural Healing

For Further Information

Canadian Chiropractic Association
1900 Bayview Ave.
Toronto, ON M4G 3E6
Phone: (416) 482-2340 ext. 186
www.ccahiro.org

Canadian Memorial Chiropractic College Admissions
1900 Bayview Ave., Room 326
Toronto, ON M4G 3E6
www.cmcc.ca

Nova Scotia College of Chiropractors
www.chiropractors.ns.ca

Dental Hygienists and Dental Assistants

Labour Market Conditions

Estimated employment in 2002	1180
Estimated change in employment between 2002 and 2007	GROWING
Estimated average annual number of job openings	40
Estimated rate of unemployment in 2001	BELOW AVERAGE
Estimated average annual earnings in 1995	$27,000

Nature of the Work

These are valuable members of the dental health team working under the supervision of licensed dentists. Dental hygienists work to prevent dental disease and help people maintain oral health. They may perform such activities as exposing x-rays; making dental impressions; applying fluoride and sealants; scaling and polishing tooth surfaces; and giving oral hygiene instruction upon direction from the dentist.

Dental assistants work with dentists in the care and treatment of patients during dental procedures. Duties include preparing patients for dental examinations; chairside assistance; exposing x-rays; sterilizing and maintaining equipment; preparing filling materials; performing laboratory procedures; scheduling appointments and recording information on patient care; invoicing patients; and general office management.

Requirements

- To become a dental hygienist in Nova Scotia, you must complete a diploma or degree program in Dental Hygiene and apply for licensure with the Provincial Dental Board of Nova Scotia.
- By 2005, an undergraduate degree will be the minimum entry requirement for dental hygienists to practise in Canada.
- To become a licensed dental assistant in Nova Scotia, you must complete an accredited Level II Dental Assisting program. As well, you must register with the Nova Scotia Dental Assistants' Association and the Canadian Dental Assistants' Association.

Training Paths

- Dalhousie University offers a two-year diploma program in Dental Hygiene. You must have completed one full year of university to enter, with courses in Biology, Sociology, Psychology, and an approved writing class. Applicants also require at least Grade 12 Chemistry.
- The Institute of Technology Campus of the Nova Scotia Community College (NSCC) offers a one-year Dental Assisting certificate program. Clinical rotations are undertaken at the Institute of Technology clinic, private dental practices, IWK Children's Hospital, and Dalhousie University's dental clinic. For admission to this program, you must successfully complete high school, including Grade 12 Chemistry and Biology, and be prepared to present evidence of good dental and medical health and be inoculated for protection against Hepatitis B infection.

Skills and Aptitudes

To work in these occupations, you should have good interpersonal skills and a desire to help others. Patience and the ability to handle stressful situations may be needed. You must be efficient and accurate, yet sensitive to the needs of patients. Hand-eye coordination and an aptitude for detailed and precise work are necessary.

Likely Employers

Most dental assistants and hygienists work in dentists' offices. Dental hygienists traditionally provide public health care to communities. Also, there are some job opportunities for both professions in hospitals, research institutions, and educational facilities.

Other Considerations

About half of the people in these occupations work full-time and for the full year.

Related Occupations

Dentists
Technical Occupations in Dental Care

For Further Information

Canadian Dental Assistants' Association
1750 Courtwood Cres.
Ottawa, ON K2C 2B5
Phone: 1-800-345-5137
www.cdaa.ca

Canadian Dental Hygienists' Association
96 Centre Pointe Dr.
Nepean, ON K2G 6B1

Nova Scotia Dental Assistants' Association
PO Box 9142, Station "A"
Halifax, NS B3K 5M8
Phone: (902) 826-1922

Provincial Dental Board of Nova Scotia
1559 Brunswick St., Suite 101
Halifax, Nova Scotia B3J 2G1
Phone: (902) 420-0083

Dentists

Labour Market Conditions

Estimated employment in 2002	450
Estimated change in employment between 2002 and 2007	GROWING
Estimated average annual number of job openings	20
Estimated rate of unemployment in 2001	SIGNIFICANTLY BELOW AVERAGE
Estimated average annual earnings in 1995	$77,000

Typical Occupations

Oral Pathologist
Oral Surgeon
Orthodontist
Periodontist

Nature of the Work

Dentists diagnose, prevent, and treat disorders of the teeth and tissues of the mouth. They remove decay and fill cavities, examine x-rays, place protective plastic sealants on children's teeth, straighten teeth, and repair fractured teeth. They also diagnose and correct abnormalities in the growth, development and positioning of teeth and other dental-facial structures; replace missing teeth; and correct irregularities of the mouth and jaw to improve speech, eating and appearance. Dentists may specialize in such areas as oral and maxillofacial surgery, orthodontics, pediatric dentistry, oral pathology, periodontics, endodontics, oral and maxillofacial radiology, prosthodontics, and public health dentistry.

Requirements

You must complete a dental program from an accredited dental school granting a Doctor of Dental Surgery (DDS), attain certification from the National Dental Examining Board, and be licensed by the Dental Board of Nova Scotia to work in this field. Membership in the Nova Scotia Dental Association is also required.

Training Paths

- You must graduate from high school with the requirements for admission to a Bachelor of Science program, such as Pre-calculus Mathematics and Grade 12 Chemistry and Biology.
- Preparation for admission to the DDS degree program requires at least two years of university with completion of a number of required science courses, such as Biology, Chemistry (inorganic and organic), Physics, Biochemistry, Microbiology, and Vertebrate Physiology, and several courses from the humanities or social sciences, at least one of which has a significant written component. Completion of a Bachelor's degree is encouraged.
- The Dalhousie University Dental School offers a four-year DDS program. Admission requires a good academic record with competitive marks, a personal interview, references from undergraduate professors, and an acceptable score on the National Dental Aptitude Test (DAT) administered by the Canadian Dental Association.

Skills and Aptitudes

To work in this field, you should be able to work carefully with your hands and have an aptitude for precise and accurate work. You should be able to work with mirror images. A reassuring manner is needed to help patients feel relaxed. You must be comfortable working with instruments and apparatus. Basic skills in operating a business are important. Artistic ability may also be helpful. You must be willing to continually update your knowledge and skills.

Likely Employers

Many dentists are self-employed, operating a private practice or being a member of a group practice, while others are employed as associates in multiple-dentist practices.

Other Considerations

The majority of dentists work full-time and for the full year. Most dentists are self-employed and operate their own practices.

Related Occupations

Canadian Forces Occupations
Dental Hygienists and Dental Assistants
Technical Occupations in Dental Care

For Further Information

Canadian Dental Association
1815 Alta Vista Dr.
Ottawa, ON K1G 3Y6
email: reception@cda-adc.ca
www.cda-adc.ca

Nova Scotia Dental Association
1559 Brunswick St., Suite 101
Halifax, NS B3J 2G1

Provincial Dental Board of Nova Scotia
1559 Brunswick St., Suite 101
Halifax, NS B3J 2G1
Phone: (902) 420-0083

Labour Market Conditions

Estimated employment in 2002	190
Estimated change in employment between 2002 and 2007	GROWING
Estimated average annual number of job openings	10
Estimated rate of unemployment in 2001	AVERAGE
Estimated average annual earnings in 1995	$29,000

Dietitians and Nutritionists

Typical Occupations

Administrative Dietitian
Clinical Dietitian
Consultant Dietitian
Nutrition and Dietetics Researcher
Public Health Nutritionist
Registered Dietitian
Registered Nutritionist

Nature of the Work

Individuals in these occupations plan and supervise programs in nutrition, diet, and food service. They develop individualized nutrition programs in hospitals, nursing homes, and schools; provide nutrition counselling and consulting; and develop educational materials for students and the general public, among other duties. The public health nutritionist develops public education and prevention programs for the population groups in their area, as well as assisting in the development of public policy as it relates to public health.

Requirements

- Completion of a four-year accredited Bachelor's degree program plus a one-year accredited dietetic internship or an accredited Integrated Internship Education program or a recognized Master's degree are required to be registered as a dietitian in Nova Scotia.
- People in this occupation must be licensed by the Nova Scotia Dietetic Association. You must also successfully complete the Canadian Dietetic Registration Examination.
- A variety of titles are used by people to describe their work in nutrition-related practice. However, only dietitians who have met national standards for education and training and who are members of the provincial regulatory body can technically use the designation 'Dietitian' or 'Nutritionist.'

Training Paths

- You should complete high school with English 12 and a strong background in mathematics and science, including Pre-calculus Mathematics, Chemistry 12, and Biology 12.
- Nova Scotia offers Human Nutrition programs at Acadia University, Mount Saint Vincent University and St. Francis Xavier University. These programs also offer an accredited integrated dietetic internship education program (the Integrated Dietetic Internship Program was introduced at St. FX in 2002). A Master's degree in Applied Human Nutrition program is offered at Mount Saint Vincent University.

Skills and Aptitudes

To work in this field, you should be interested in helping people, working in partnership with others, and promoting healthy lifestyles. You should have an aptitude for science. Good judgement, organizational skills, and leadership skills are important. You must be creative, tactful, and tolerant of others.

Likely Employers

Most dietitians and nutritionists are employed by hospitals or other healthcare facilities, such as nursing homes and centres for the disabled. A small number of dietitians are self-employed.

Other Considerations

The majority of workers in these occupations work full-time and for the full year. Most dietitians and nutritionists work regular hours; however, those in hospitals may work evenings, weekends, or holidays.

Related Occupations

Sales and Service Supervisors
Managers in Health, Education, Social, and Community Services
Practitioners in Natural Healing

For Further Information

Dietitians of Canada
480 University Ave., Suite 601
Toronto, ON M5G 1V2
www.dietitians.ca

Nova Scotia Dietetic Association
PO Box 36104
Halifax, NS B3J 3S9
Phone: (902) 454-2348

Labour Market Conditions

Estimated employment in 2002	570
Estimated change in employment between 2002 and 2007	GROWING
Estimated average annual number of job openings	20
Estimated rate of unemployment in 2001	SIGNIFICANTLY BELOW AVERAGE
Estimated average annual earnings in 1995	$23,000

Emergency Medical Technicians

Typical Occupations

Paramedic Level I
(Primary Care Paramedic)
Paramedic Level III
(Advanced Care Paramedic)
Critical Care Paramedic

Nature of the Work

Paramedics typically administer pre-hospital emergency medical care to patients and transport them to hospitals or other medical facilities for further medical attention. A Paramedic Level I may work as part of a ground ambulance crew, emergency department triage, or dispatch communications. A Paramedic Level III may work as part of a ground ambulance crew, dispatch communications, emergency department paramedic, or flight crew. Paramedics usually work in teams of two. A basic life support (BLS) crew consists of two Paramedic Level I's, while an advanced life support (ALS) crew must have at least one Paramedic Level III. Duties include assessment and administering lifesaving pre-hospital care such as defibrillation, administration of medications, advanced airway management, and transport to a medical facility. Additionally, the paramedic must maintain precise documentation, provide testimony in a court of law, and maintain ambulances and equipment.

Requirements

- To work as a paramedic in Nova Scotia, you will require completion of a college, hospital-based or other program in primary care paramedicine, which has been approved by Emergency Health Services (EHS) or is CMA-accredited. To work as a Paramedic Level III, you require experience as a Paramedic Level I and completion of a program in advanced care paramedicine.
- Nova Scotia has an intermediate level between the Paramedic Level I and the Paramedic Level III, the Intermediate Care Paramedic (ICP). Since this level is not accredited or recognized nationally, EHS no longer accepts new registrants at this level, although existing paramedics at this level may continue to practise in Nova Scotia.
- In addition to training, you must complete a Personal Care Report (PCR) in-service to qualify for registration.
- You must hold a valid Class IV driver's licence.

Training Paths

- Admission to most training programs requires completion of Grade 12 with at least two science courses. Applicants must meet age and health requirements and undergo a criminal record check. You should contact the institution for specific entrance requirements.
- Ten-month EHS-approved training programs in Primary Care Paramedicine (Level I) are available through Collège de L'Acadie in Meteghan River and the Maritime School of Paramedicine in Dartmouth. Programs are also available at Holland College in Charlottetown, PEI, and Health Care Corporation of St. John's, NF.
- The School of Health Services Administration at Dalhousie University offers a diploma in Emergency Health Services Management through distance education.
- A twenty-month training program in Advanced Care Paramedicine (Level III) is offered at several Nova Scotia locations by Holland College. Admission requires completion of a Primary Care Paramedicine program and at least one year's experience as a Paramedic Level I. Contact Holland College for additional information.

Skills and Aptitudes

Paramedics work in a physically demanding environment and must maintain a high level of strength and fitness. Paramedics are often involved in highly stressful situations that require the ability to make accurate, rapid decisions that can greatly affect the health of a patient. Effective communication skills are essential as the paramedic must routinely interact with patients, family members, health care providers, and other emergency services including fire and police agencies.

Likely Employers

Most emergency medical technicians are employed through the regional ground ambulance service. Others work in hospitals, personal household service companies, or federal government departments.

Other Considerations

The majority of emergency medical technicians work full-time and for the full year. People in these occupations are usually required to work irregular hours, evenings, weekends, and holidays.

Related Occupations

Licensed Practical Nurses
Personal Care Workers, Orderlies,
and Other Health-care Assistants
Recording, Scheduling, and
Distributing Occupations

For Further Information

Nova Scotia Emergency Health Services
Bedford Tower, Suite 401
1496 Bedford Highway
Halifax, NS B4A 1E5
www.gov.ns.ca/health/ehs

Labour Market Conditions

- **Estimated employment in 2002** **1980**
- **Estimated change in employment between 2002 and 2007** .... **GROWING**
- **Estimated average annual number of job openings** **80**
- **Estimated rate of unemployment in 2001** .... **SIGNIFICANTLY BELOW AVERAGE**
- **Estimated average annual earnings in 1995** **$105,000**

Family Physicians and Specialists

Typical Occupations

Anaesthetist
General Practitioner
Gynecologist
Oncologist
Pediatrician
Psychiatrist
Surgeon

Nature of the Work

These individuals diagnose and treat the diseases, physiological and psychological disorders, and injuries of patients. Within this group of occupations, there are two broad groupings. Family physicians provide primary contact and continuing and comprehensive care to patients of all ages. Specialists, on the other hand, have an in-depth knowledge and highly specialized skills in a specific medical field. Specialists include anaesthetists, who administer anesthetics and control pain during surgery; gynecologists, who study and treat disorders of the female reproductive system; internists, who specialize in disorders of organs such as heart, lungs, kidneys, and stomach; pediatricians, who care for infants and children; psychiatrists, who specialize in disorders of the mind; and oncologists, who treat cancer.

Activities for both groupings may include examining patients; ordering laboratory tests, x-rays and other diagnostic procedures; prescribing and administering medications and treatments; performing surgical procedures; acting as a consultant to other physicians; conducting medical research; teaching; and performing related tasks. Both family physicians and specialists tend to work long and irregular hours, especially those physicians who operate their own practices or work in small groups.

Requirements

People in this profession must complete an accredited medical program at an approved medical school granting a Doctor of Medicine (MD) degree, complete residency training in their area of practice, and have a licence to practise medicine. This is granted by the College of Physicians and Surgeons of Nova Scotia.

Training Paths

- You must complete high school with the required courses for admission to a Bachelor of Science program, which usually include English 12, Pre-calculus Mathematics, and Grade 12 science courses.
- Ideally, you should complete a four-year Bachelor of Science program, although graduates of three-year programs will be considered under exceptional circumstances. The program of study should include a number of courses in humanities and social sciences, as well as courses in physical and life sciences.
- The Dalhousie University Medical School offers a four-year Doctor of Medicine degree. To enter, you must have a Bachelor's degree with a minimum average of B+ based on a full course load in the final two years and an acceptable score on the Medical College Admission Test (MCAT). The application process may also require references and an interview. Please contact the Admissions Office for detailed information.
- The basis for receiving a licence is generally the same in all provinces except Quebec. This includes successful completion of the Medical Council of Canada's qualifying exam, plus certification by either the College of Family Physicians of Canada or the Royal College of Physicians and Surgeons of Canada. Certification by the College of Family Physicians of Canada requires a post-graduate program of two to eight years; the Royal College of Physicians and Surgeons of Canada requires four to eight years. You must have an overall minimum average of B+, as there is strong competition to enter this field. At the present time, certification programs are more difficult to secure.

Skills and Aptitudes

Compassion, sensitivity, and a desire to help people are important. Physicians must take final responsibility for their decisions and the effects they have on patients' lives. Therefore, emotional stability, ethics, maturity, and good judgement are essential. Excellent interpersonal and communication skills are important. You should be able to inspire confidence and put people at ease. You must be willing to continually update your knowledge and skills. Good health and stamina may be needed, as physicians often work long hours.

Likely Employers

Many people in these occupations are self-employed, working within their own private practices. Individuals in this field also often work in hospitals or universities.

Other Considerations

The majority of people in these occupations work full-time and for the full year. Most physicians are self-employed and administer their services through private practices. Earnings currently depend upon the fees paid by the government for various services and the number of patients served.

Related Occupations

Chiropractors
Managers in Health, Education, Social, and Community Services
Other Professional Occupations in Health Care

For Further Information

Admissions Office
Faculty of Medicine
Dalhousie University
Room C-132, CRC Bldg.
5849 University Ave.
Halifax, NS B3H 4H7
www.medicine.dal.ca

Medical Society of Nova Scotia
5 Spectacle Lake Dr.
Dartmouth, NS B3B 1X7
www.medsocns.com

College of Physicians and Surgeons of Nova Scotia
1559 Brunswick St., Suite 200
Halifax, NS B3J 2G1
www.cpsns.ns.ca

Licensed Practical Nurses

Labour Market Conditions

Estimated employment in 2002	2160
Estimated change in employment between 2002 and 2007	GROWING
Estimated average annual number of job openings	70
Estimated rate of unemployment in 2001	BELOW AVERAGE
Estimated average annual earnings in 1995	$23,000

Nature of the Work

A licensed practical nurse provides physical and supportive care to patients of all ages within a stabilized nursing situation. They may work independently or under the direction of a physician or registered nurse, depending on the level of care and observation required. The LPN is able to recognize deviations from normal, and is able to determine when to report changes in patient condition and environment. The practical nurse performs duties involving basic knowledge, skills, and judgement required to participate in the nursing process. Shift work is the norm in this occupation.

Requirements

Individuals in this work must complete an approved Practical Nursing program, write a national examination, and be licensed by the College of Licensed Practical Nurses of Nova Scotia.

Training Paths

- Completion of Grade 12 with English 12, Mathematics 12, and Biology 12 is required for admission to the Practical Nursing program. Once accepted, students may be required to authorize a Criminal Record Check and Child Abuse Registry Check.
- The Akerley, Burridge, Marconi and Lunenburg campuses of the Nova Scotia Community College (NSCC) offer an approved twelve-month Practical Nursing certificate program in this field. Approximately half of this time is devoted to theory and laboratory practice on campus, and the other half is in a clinical setting practising the skills of the profession. The program also includes a four-week internship feature. Students of this program must successfully complete their studies and the four-week internship before writing the National Examinations. After passing these exams, the graduate must be licensed with the College of Licensed Practical Nurses of Nova Scotia in order to practise and use the designated title of Licensed Practical Nurse (LPN).

Skills and Aptitudes

Individuals entering this profession should enjoy caring for people of all ages. Good communication skills and interpersonal skills are also very important. Physical demands include moving and lifting others as well as spending long periods of time on one's feet. LPN's must be able to cope with stress and occasional emergency situations.

Likely Employers

Most practical nurses work in hospitals or other healthcare facilities such as nursing homes, homes for the disabled, and rehabilitation centres. Others occasionally find employment in medical practices, private homes, and community/home care.

Other Considerations

Changes in the healthcare delivery system in Nova Scotia may affect job opportunities in these occupations as well as the location and type of establishment employing these workers. Employment levels in hospitals will likely decline, and employment growth will probably occur in other healthcare organizations involved in the provision of community-based healthcare and home care.

Related Occupations

Personal Care Workers, Orderlies,
and Other Health-care Assistants
Registered Nurses

For Further Information

College of Licensed Practical Nurses of Nova Scotia
2000 Barrington St., Suite 1212
Halifax, NS B3J 3K1
Phone: (902) 423-8517
email: info@lpnboard.ns.ca
www.lpnboard.ns.ca

Medical Laboratory Technicians and Technologists

Labour Market Conditions

- **Estimated employment in 2002 ....1250**
- **Estimated change in employment between 2002 and 2007 ....GROWING**
- **Estimated average annual number of job openings 40**
- **Estimated rate of unemployment in 2001 ..........SIGNIFICANTLY BELOW AVERAGE**
- **Estimated average annual earnings in 1995................................$38,000**

Typical Occupations

Blood Bank Technician
Cytotechnologist
Histology Technologist
Medical Laboratory Assistant
Medical Laboratory Technologist

Nature of the Work

Technicians such as medical laboratory assistants and blood bank technicians may collect blood, tissue, or other samples from patients, log patient samples, and prepare them for testing. They also conduct routine medical laboratory tests and set up, clean, and maintain medical laboratory equipment. Medical laboratory technologists also may collect blood, tissue, or other samples from patients. They conduct laboratory tests, experiments, and analyses to assist in the diagnosis, treatment, and prevention of disease. Activities may include conducting chemical analyses of blood, urine, and other body fluids; preparing tissue sections for microscopic examination; performing blood group, type, and compatibility tests for transfusion purposes; and training other laboratory workers. Cytotechnologists, for example, observe the changes in cells associated with cancer, while histology technologists examine body tissue structure. Depending on the size and type of institution, people in these occupations may be required to work evenings, weekends, or holidays.

Requirements

- Medical laboratory technologists need a two- to three-year program in Medical Laboratory Technology and a period of supervised, relevant work experience, or a Medical Laboratory Science degree. To be certified, technologists must successfully complete the Canadian Society for Medical Laboratory Science national exams. Most medical laboratory technologists have training in all the major disciplines of laboratory medicine: histology, hematology, chemistry, and microbiology.
- People who work as medical laboratory technicians require at least a high school diploma with courses in science and mathematics and either on-the-job training or a one- to two-year college program in Medical Laboratory Technology.
- Medical Laboratory Technologists must register with the Nova Scotia Society of Medical Laboratory Technologists.

Training Paths

- Nova Scotia Community College (NSCC) has an agreement with New Brunswick Community College to guarantee seats in the two-year Medical Laboratory Technology diploma program at the Saint John Campus. You must apply through the NSCC Institute of Technology Campus. To enter the diploma program, you must complete high school with a minimum of Mathematics 12, Chemistry 12, Physics 12, Biology 12 and English 12. Admission to the program requires inoculation for protection against Hepatitis B infection.
- Dalhousie University, in partnership with Queen Elizabeth II Health Sciences Education, offers a three-year diploma program and a four-year Bachelor's degree program in Health Science in Diagnostic Cytology. Applicants must have a satisfactory score on the Allied Health Aptitude Test. To be admitted to the Health Science degree or diploma program, you must complete high school with five academic courses at the Grade 12 level, including English 12, Pre-calculus Mathematics or Mathematics 12, Biology 12, and Chemistry 12, with a minimum overall average of 70%.
- The QEII/Dalhousie School of Health Sciences offers a post-diploma program in Medical Laboratory Technology for registered technologists.

Skills and Aptitudes

This work demands close attention to detail. You must have good manual dexterity and be comfortable working with instruments and technology. Good communication skills and the ability to cooperate with others are important. You should be responsible, dependable, and willing to keep pace with rapid developments in the field.

Likely Employers

Most people in this field are employed by hospitals. Others often find employment in various health facilities, medical laboratories, or educational settings.

Other Considerations

Most workers in these occupations are employed full-time and for the full year.

Related Occupations

Life Sciences Technicians and Technologists
Physical Sciences Technicians and Technologists

For Further Information

Canadian Blood Services
Halifax Blood Centre
1940 Gottingen St.
PO Box 2085
Halifax, NS B3J 3B7
www.bloodservices.ca

Canadian Society for Medical Laboratory Science
PO Box 2830, LCD1
Hamilton, ON L8N 3N8
www.csmls.org

Nova Scotia Society of Medical Laboratory Technologists
PO Box 60012, Professional Centre
Halifax, NS B3H 4R7
home.istar.ca/~nssmlt

QEII/Dalhousie School of Health Sciences
Student Services
Office 640, Bethune Bldg.
1278 Tower Rd.
Halifax, NS B3H 2Y9
Phone: (902) 473-5510
www.dal.ca.shs

Medical Radiation Technologists

Labour Market Conditions

Estimated employment in 2002	480
Estimated change in employment between 2002 and 2007	GROWING
Estimated average annual number of job openings	20
Estimated rate of unemployment in 2001	BELOW AVERAGE
Estimated average annual earnings in 1995	$41,000

Typical Occupations

Magnetic Resonance Technologist
Nuclear Medicine Technologist
Radiation Therapist
Radiological Technologist

Nature of the Work

Magnetic resonance technologists use magnetic resonance imaging (MRI) technology to study the cardiovascular system, detect tumours, study body chemistry and functions, and image soft tissues such as muscles, tendons, or arteries. Nuclear medicine technologists perform diagnostic imaging using technology such as PET scans, usually involving the injection of radioactive drugs. They evaluate coronary disease, study how organs function, determine the location of tumours, monitor the progression of cancer and the results of treatments, and diagnose hormonal disorders. Radiological technologists may take x-rays or perform CAT scans, mammograms, angiography, or fluoroscopy. They may specialize in one of these procedures. Radiation therapists are key members of cancer treatment teams. They use focused beams of radiation to destroy tumours. Individuals in these occupations explain procedures, answer questions and put patients at ease, and monitor patients.

Requirements

- People in this field must successfully complete a three- to four-year college, hospital school, or other approved diploma or degree program in diagnostic radiography or nuclear medicine technology, or they may take a 27-month radiation therapy diploma program. As part of or upon completion of their training, they must undergo a period of supervised practical training, and be registered with the Canadian Association of Medical Radiation Technologists and the Nova Scotia Association of Medical Radiation Technologists.
- As of 2005, an undergraduate degree will become the minimum criteria for certification of Medical Radiation Technologists.

Training Paths

- To enter these programs, you must complete high school with at least five academic courses at the Grade 12 level, including English 12, Mathematics 12 or Pre-calculus Mathematics, Physics 12, and either Biology 12 or Chemistry 12, with a minimum overall average of 70%.
- Dalhousie University School of Health Science in Halifax offers a 3-year diploma program and a 4-year Bachelor's program in Health Science (BHSc), in partnership with the Queen Elizabeth II Health Sciences Education Program. Radiological technology and nuclear medicine technology are two of the majors offered in the program. There are no medical radiation therapy or magnetic resonance imaging programs offered in Nova Scotia. The closest educational institute that offers study in these areas is The Michener Institute for Applied Health Sciences in Toronto, Ontario. The QEII has an affiliation with Michener and sponsors 3 students per year.

Skills and Aptitudes

This work demands skill with your hands, accuracy, and close attention to detail. You should be efficient yet sensitive to patients' needs. Integrity and a strong sense of responsibility are important, as your results may affect a diagnosis. You must also be comfortable working with technology and able to keep up with new advances in the field.

Likely Employers

Almost all medical radiation technologists are employed by hospitals, although a few find work in federal government departments.

Other Considerations

The majority of these workers work full-time and for the full year. Depending on the size and type of institution, people in these occupations may be required to work evenings, weekends, or holidays.

Related Occupations

Medical Laboratory Technicians and Technologists
Other Medical Technicians and Technologists

For Further Information

Canadian Association of Medical Radiation Technologists
130 Albert St., Suite 1510
Ottawa, ON K1P 5G4
www.camrt.ca

Nova Scotia Association of Medical Radiation Technologists
www.nsamrt.ca

QEII/Dalhousie School of Health Sciences
Student Services
Office 640, Bethune Bldg.
1278 Tower Rd.
Halifax, NS B3H 2Y9
Phone: (902) 473-5510
www.dal.ca.shs

Occupational Therapists

Labour Market Conditions

Estimated employment in 2002	210
Estimated change in employment between 2002 and 2007	GROWING
Estimated average annual number of job openings	10
Estimated rate of unemployment in 2001	AVERAGE
Estimated average annual earnings in 1995	$34,000

Nature of the Work

Individuals in these occupations assist people with physical and mental disabilities in maintaining their level of independence in day-to-day activities. Activities may include assessing client's current and potential level of functioning; developing and implementing a treatment plan in the client's various environments; maintaining clinical and statistical records; designing programs for the community; and conducting research. They work collaboratively with clients, who may be individuals, groups, agencies, or organizations, to enable them to choose, organize, and perform those occupations they find useful and meaningful in their environments. Occupational therapists may supervise occupational therapist assistants, and are accountable for service components assigned to them.

Requirements

- To become an occupational therapist, you are required to have a Bachelor of Science degree in Occupational Therapy.
- As of 2010, a Master's degree may be the minimum entry requirement to professional practice in Canada.
- Following completion of this degree, you must successfully complete the National Certification Examination for Occupational Therapists and be licensed to practise in Nova Scotia by the College of Occupational Therapists of Nova Scotia.

Training Paths

- To enter a program in Occupational Therapy, you require a high school diploma with a minimum Grade 12 average of 70%.
  You require at least English 12 and Mathematics 12 or Pre-calculus Mathematics with a minimum of 65% for both courses. It is recommended that you take at least two Grade 12 sciences.
- Dalhousie University offers the only accredited Occupational Therapy educational program within the Atlantic region.
  It requires four years of university study to obtain a Bachelor's degree in Occupational Therapy. To enter this program, you must enroll in the first year of a Bachelor of Science program which includes the five classes required for admission to the Occupational Therapy program. During the course of the first year, application should be made to the School of Occupational Therapy. Enrolment is limited and the admission process is competitive. Dalhousie University also offers a Master's degree program in Occupational Therapy.

Skills and Aptitudes

To work in occupational therapy, you must have a genuine and sensitive interest in people and their ability to achieve. You must be able to communicate effectively with people and demonstrate a strong sense of responsibility, good judgement, patience, and self-discipline. Occupational therapists must be creative and unique in their approach to each client.

Likely Employers

Most individuals in this occupation are employed by hospitals or other providers of healthcare such as nursing homes or rehabilitation clinics.

Other Considerations

The majority of occupational therapists work for part of the year, while most of the rest work full-time or for the full year.

Related Occupations

Managers in Health, Education, Social, and Community Services
Occupations in Therapy and Assessment

For Further Information

Canadian Association of Occupational Therapists
Carleton Technology and Training Centre, Suite 3400
Carleton University
1125 Colonel By Dr.
Ottawa, ON K1S 5R1
www.caot.ca

College of Occupational Therapists of Nova Scotia
6960 Mumford Rd., Suite S3
Halifax, NS B3L 4P1
Phone. (902) 455-0556

Nova Scotia Society of Occupational Therapists
6960 Mumford Rd., Suite S3
Halifax, NS B3L 4P1
Phone: (902) 455-0556

Occupations in Therapy and Assessment

Labour Market Conditions

- **Estimated employment in 2002.........170**
- **Estimated change in employment between 2002 and 2007............GROWING**
- **Estimated average annual number of job openings 5**
- **Estimated rate of unemployment in 2001 ....BELOW AVERAGE**
- **Estimated average annual earnings in 1995................................$23,000**

Typical Occupations

Art Therapist
Athletic Therapist
Massage Therapist
Music Therapist
Recreational Therapist

Nature of the Work

Art therapists, music therapists, and recreational therapists are part of a group of specialized therapists who use techniques such as art, athletics, dance, drama, music, or recreation to aid in the treatment of mental and physical disabilities and illnesses. Massage therapists develop treatment plans and administer massage therapy and other treatments such as whirlpool baths, hot compresses, or ice packs.

Requirements

- Art therapists require training or technical ability in art and a Master's degree in Art Therapy, while music therapists usually require training or technical ability in music and a Bachelor's degree or two-year college program in Music Therapy.
- Athletic therapists usually require a Bachelor's degree in Physical Recreation or a related area with a specialization in Sports Medicine, or a college program in Sports Injury Management.
- Massage therapists require completion of an eighteen- to twenty-four month, or 2200 hour, program in Massage Therapy from an accredited school, plus supervised practical training.
- Recreational therapists usually require a Bachelor's degree or college program in Recreation with specialization in Therapeutic Recreation. Many employers look for CTRS (Certified Therapeutic Recreation Specialist) Certification.

Training Paths

- St. Francis Xavier University offers a four-year Bachelor of Arts or Science in Human Kinetics. Admission requires high school graduation with completion of English 12 and two courses in Mathematics, Chemistry, Biology, or Physics.
- Acadia offers a four-year Bachelor's degree in Kinesiology with specializations in Sport Rehabilitation and Health Promotion and Wellness. Applicants require a minimum 70% average. Please contact the university for detailed admission requirements.
- Dalhousie University offers a four-year Bachelor of Kinesiology program. High school applicants should have an average of at least 75%.
- Dalhousie University offers a four-year Bachelor's degree in Recreation–Therapeutic. Admission requires Grade 12 graduation with a minimum average of 70%. Courses should include English 12 and Biology 12 or Chemistry 12. Dalhousie also offers Master's degrees in Kinesiology and Leisure Studies.
- Training in art and music therapy is not available in the Atlantic provinces. Programs are offered at several institutions in Ontario, including the Toronto Art Therapy Institute and the University of Western Ontario, and at Concordia University in Montreal. Most art therapy programs require completion of a Bachelor of Fine Arts for admission, sometimes with specific undergraduate course requirements.
- Concordia University also offers Master's degrees in Music Therapy and Drama Therapy.
- Several private career colleges in Nova Scotia, such as Northumberland College and the Canadian College of Natural Medicine, offer training in massage therapy.
- The Nova Scotia Community College (NSCC), Truro Campus, offers a two-year diploma program in Human Services, with a second-year concentration in Gerontology–Recreation and Leisure. You can take the common first year of Human Services at a number of different campuses. The entrance requirement is a high school diploma.

Skills and Aptitudes

To work in recreational therapy, you must have a genuine and sensitive interest in people and their ability to achieve. You must be able to communicate effectively with people and demonstrate a strong sense of responsibility, good judgement, patience, and self-discipline. Therapists must be creative and unique in their approach to each client. The ability to inspire confidence and to motivate clients is important. A strong sense of responsibility, good judgement, and communication skills are also necessary. Massage therapists also require physical stamina.

Likely Employers

The majority of people employed in these occupations work either with public institutions or private establishments engaged in providing health and social services.

Other Considerations

Most people in these occupations are employed full-time and for the full year. Those not employed with public institutions or agencies are often self-employed in a private or group practice.

Related Occupations

Occupational Therapists
Physiotherapists
Recreation and Sports Program Officers and Consultants

For Further Information

Atlantic Canadian Society for Therapeutic Recreation Specialists
PO Box 38097
Dartmouth, NS B3B 1X2
is.dal.ca/~jerome/index.htm

East Coast Massage Therapist Association
PO Box 761
Dartmouth, NS B2Y 3Z3
Phone: (902) 466-6442
www.eastmassage.org

Massage Therapists' Association of Nova Scotia
PO Box 3031
Halifax, NS B3L 4T6
Phone: (902) 429-2190

Toronto Art Therapy Institute
216 St. Clair Ave. West
Toronto, ON M4V 1R2
tati.on.ca

Opticians

Labour Market Conditions

- **Estimated employment in 2002.........180**
- **Estimated change in employment between 2002 and 2007.............GROWING**
- **Estimated average annual number of job openings...............................10**
- **Estimated rate of unemployment in 2001 ...........SIGNIFICANTLY BELOW AVERAGE**
- **Estimated average annual earnings in 1995.................................$24,000**

Typical Occupations

Dispensing Optician
Eyeglass and Contact Lens Fitter
Ophthalmic Dispenser
Research Optician

Nature of the Work

Opticians translate prescriptions from either an Ophthalmologist or Optometrist into a pair of eyeglasses or contact lenses exactly made for the individual. Dispensing opticians fit clients with eyeglasses or contact lenses; arrange for the production of eyeglasses and contact lenses; assist customers when choosing frames; and provide information on procedures for inserting, removing, and cleaning contact lenses. Other duties may include grinding and polishing lenses and adjusting finished eyeglasses to fit the client.

Requirements

Completion of a two- or three-year college program in ophthalmic dispensing, which includes an apprenticeship feature, is required. Opticians must have a current Certificate of Registration. This is issued by the Board of Dispensing Opticians of the Province of Nova Scotia. A contact lens fitter will need to have special certification issued by the Board.

Training Paths

- Programs in Ophthalmic Dispensing and Contact Lens Fitting is available at Success College–Scotia Campus in Lower Sackville. The prerequisite to enter the program is Grade 12 with academic courses, including physics. The program is 16 months in duration.
- A two-year co-op diploma in Opticianry is available at Georgian College of Applied Arts and Technology in Barrie, Ontario. You must have a high school diploma to enter, with English 12, Mathematics 12, and Grade 11 or 12 Physics. Admission requires successful completion of the College Assessment for Placement in Communications, Mathematics and Computers, along with an essay and a mechanical reasoning test.

Skills and Aptitudes

This work demands close attention to detail and an ability to work precisely and accurately. You should enjoy working with people and be approachable, reassuring, and sensitive to their needs.

Likely Employers

Most opticians are employed by retail trade companies that sell eyewear and related products to the public or with firms that manufacture these products. Others work within medical laboratories, optometrists' offices, or other retail service companies.

Other Considerations

The majority of opticians work full-time and for the full year. People in this occupation usually work regular hours; however, evening and weekend shifts may be required.

Related Occupations

Optometrists

For Further Information

Nova Scotia Society
of Dispensing Opticians
PO Box 3188
Halifax, NS B3J 3H5

Opticians Association of Canada
83 Garry St., Suite 2706
Winnipeg, MB R3C 4S9
www.opticians.ca

The Board of Dispensing Opticians of the
Province of Nova Scotia
5880 Spring Garden Rd., Suite 16
Halifax, NS B3H 1Y1

Optometrists

Labour Market Conditions

Estimated employment in 2002	230
Estimated change in employment between 2002 and 2007	GROWING
Estimated average annual number of job openings	10
Estimated rate of unemployment in 2001	SIGNIFICANTLY BELOW AVERAGE
Estimated average annual earnings in 1995	$49,000

Nature of the Work

Optometrists are healthcare professionals who diagnose disorders and diseases of the eyes. They prescribe or provide treatment including glasses, contact lenses, eye exercises, and other therapy. If the optometrist detects a medical condition such as high blood pressure or diabetes that has affected a patient's vision, he or she will refer the patient to a physician for further treatment.

Requirements

A person working in this occupation must be licensed as a Doctor of Optometry with the Nova Scotia Association of Optometrists.

Training Paths

- You must complete high school with the requirements for admission to a Bachelor of Science program, usually English 12, Mathematics 12 or Pre-Calculus Mathematics, and at least two Grade 12 science courses.
- Training for optometrists is not available in Nova Scotia. A four-year program is offered at the University of Waterloo in Ontario. To enter, you must have a high school diploma plus two years of university study in Science, taking courses required for admission into the Optometry program. These two years can be completed at most universities in Nova Scotia. However, the University of Waterloo prefers that you complete the program offered at their university. The number of spaces in the program for Nova Scotian students is very limited. Therefore, high marks in all subjects are strongly advised. The Université de Montréal in Quebec offers a program in Optometry for French-speaking students only.

Skills and Aptitudes

This work demands good hand-eye coordination and an aptitude for precision and accuracy. You should be comfortable working with delicate instruments and apparatus. Patience, tact, and the ability to put people at ease is important. You should also have good communication and interpersonal skills. Since most optometrists run their own practices, some business skills would be helpful.

Likely Employers

Most optometrists are self-employed and either operate a private practice or work within a group practice environment.

Other Considerations

The majority of optometrists work for the full year. Earnings depend upon the number of patients served and the services provided. Optometrists who are self-employed have considerable flexibility in their hours of work. Some may work on Saturdays or evenings to meet the needs of their patients.

Related Occupations

Family Physicians and Specialists
Opticians

For Further Information

Canadian Association of Optometrists
234 Argyle Ave.
Ottawa, ON K2P 1B9
www.opto.ca

Nova Scotia Association of Optometrists
PO Box 21074
Dartmouth, NS B2W 6B2

Other Medical Technicians and Technologists

Labour Market Conditions

Estimated employment in 2002	600
Estimated change in employment between 2002 and 2007	GROWING
Estimated average annual number of job openings	20
Estimated rate of unemployment in 2001	BELOW AVERAGE
Estimated average annual earnings in 1995	$40,000

Typical Occupations

Animal Health Technician
Cardiology Technologist
Clinical Perfusionist
Electroneurophysiology (EEG or EMG) Technician
Medical Sonographers
Prosthetists and Orthotists
Respiratory Therapist

Nature of the Work

This group includes a number of occupations in the fields of medicine and healthcare for humans and animals. Activities vary widely for each occupation in this group. Animal health technicians assist veterinarians by caring for animals and assisting in the diagnosis and treatment of sick animals. Cardiology technologists and electroneurophysiology technicians operate electronic diagnostic equipment to record cardiac activity or electrical activity of the brain and central nervous system. Electroneurophysiology technicians may perform electroencephalography (EEG) or electromyography (EMG).

Clinical perfusionists provide technical support to cardiac surgeons and anaesthetists during open-heart surgery. Medical sonographers operate ultrasound equipment to produce and record images of various parts of the body. Prosthetists and orthotists design, construct, and fit artificial limbs and braces. Respiratory therapists perform diagnostic tests on patients with respiratory and cardiopulmonary disorders, operate and monitor respiratory equipment, and may participate in research related to those disorders.

Individuals in these occupations may prepare reports for physicians or participate in research. Others may hold positions which involve primarily supervisory or teaching responsibilities. People in these occupations may be required to work evenings, weekends or holidays.

Requirements

- Completion of a two-year Animal Health Technician or Veterinary Technician program or a three-year Veterinary Technologist program is required to practise as an animal health technician.
- To practise as a cardiology technologist or electrocardiograph technologist, you must complete high school and a one- to two-year college, hospital, or other training program in cardiology technology. This includes a supervised practical training experience. Upon completion of the program you must write the national registration exams administered by the Canadian Society of Cardiology Technologists (CSCT). Registration with CSCT is required.
- Clinical perfusionists are required to complete a Respiratory Therapy or Registered Nursing program, with a minimum of one year of work experience as a respiratory therapist or registered nurse, and completion of a one-year program in Clinical Perfusion, including clinical training.
- Electroneurophysiology technologists are required to complete a two-year college or hospital-based program in electrophysiology technology and supervised practical training. They must be registered with the Canadian Board of Registration of Electroencephalograph Technologists to perform EEG studies, and with the Board of Registration of Electromyography Technologists of Canada to perform EMG studies.
- Completion of a four-year university program is required to become a diagnostic medical sonographer in Nova Scotia. Registration with the Canadian Society of Diagnostic Medical Sonographers (CSDMS) or a provincial body may be required. Candidates must successfully complete the American Registry of Diagnostic Medical Sonographers (ARDMS) examination to register with CSDMS. This examination is generally accepted world-wide as the qualifying standard to practise.
- To be eligible for certification in prosthetics or orthotics, you must complete a clinical program approved by the Canadian Board for Certification of Prosthetists and Orthotists (CBCPO), intern under a CBCPO-certified practitioner for 22 months, and pass the CBCPO certification examination.
- Respiratory therapists are required to complete a four-year university program in Respiratory Therapy, including clinical training. Membership in the Canadian Society of Respiratory Therapists (CSRT) is required to practise.

Training Paths

- A two-year Animal Health Technician diploma is offered at the Nova Scotia Agricultural College. To be admitted, you require high school graduation with a minimum 60% average in Biology, Chemistry, English, Pre-calculus Mathematics or Advanced Mathematics, and at least one other Grade 12 course. A minimum grade of 70% in mathematics is required if Mathematics 12 is taken.
- Cardiology certificate and diploma programs are available through the British Columbia Institute of Technology. The delivery of the Cardiology Technology Program is in a distance education format with a practicum component. Applicants to the program require high school completion with Mathematics 12, Biology 12, English 12, and Grade 11 or 12 Physics and Chemistry. You also require basic computer keyboard skills, and you must obtain acceptance from your clinical practicum site before admission to the program. Work-related or volunteer experience is highly recommended.
- Exceptionally high marks in your Respiratory Therapy program must support your application to be admitted to a Clinical Perfusion program. You should contact the IWK-Grace Health Centre for program details and entrance requirements regarding the Clinical Perfusion program.
- Dalhousie University, in partnership with Queen Elizabeth II Health Sciences Education, offers a three-year diploma program and a four-year Bachelor's degree program in Health Science in the areas of Diagnostic Medical Ultrasound and Respiratory Therapy. Applicants must have a satisfactory score on the Allied Health Aptitude Test. To be admitted to the Health Science degree or diploma program, you must complete high school with five academic courses at the Grade 12 level and a minimum overall average of 70%.

- Training for prosthetists and orthotists is available at two authorized schools in Canada – the British Columbia Institute of Technology (BCIT) and George Brown College in Toronto, Ontario. A two-year technical program is available at George Brown College to those who have completed high school with Grade 12 English and courses in Grade 11 or 12 Physics and Biology. A two-year Clinical Orthotist/Prosthetist program at BCIT is open to those who have completed the Orthotics/Prosthetics technical program. You may also enter if you have a Bachelor's degree in Science, Physical Education, Nursing, Engineering, or other related field. Successful graduates of these programs must write exams, given by the Canadian Board for Certification of Prosthetists and Orthotists, to be certified.

Skills and Aptitudes

To work in these fields, you should be interested in medicine and health. Manual dexterity and good coordination are necessary. You must be able to deal with people in a mature, tactful, and professional way. You should also be comfortable working with instruments, apparatus, and technology. A background in science would be helpful.

Likely Employers

The majority of individuals in these occupations are employed by hospitals. Animal health technicians are usually employed by veterinary clinics.

Other Considerations

Although the majority of people in these occupations are employed full-time, part-time and casual work arrangements are common.

Related Occupations

Pet Groomers and Animal Care Workers
Medical Radiation Technologists

For Further Information

British Columbia Institute of Technology
3700 Willingdon Ave.
Burnaby, BC B5G 3H2
www.bcit.ca

Canadian Board for Certification of
Prosthetists and Orthotists
c/o Canadian Association of Prosthetists
and Orthotists Head Office
303–267 Edmonton St.
Winnipeg, MB R3C 1S2
www.pando.ca/capo.htm

Canadian Society of Diagnostic
Medical Sonographers
PO Box 1220
Kemptville, ON K0G 1J0
email: csdms@sympatico.ca
www.csdms.ca

Canadian Society of
Respiratory Therapists
102–1785 Alta Vista Dr.
Ottawa, ON K1G 3Y6
www.csrt.com

Cardiology Technologists'
Association of Nova Scotia
c/o Queen Elizabeth II
Health Care Centre Unit
Victoria General Site
Halifax, NS B3H 2Y9
Phone: (902) 473-6527

Electroneurophysiology
QEII Health Sciences Centre
Neuroservices
Room 3841, New HI Site
Halifax, NS B3H 3A7
Phone: (902) 473-2136

Nova Scotia Society of Medical
Laboratory Technologists
PO Box 60012, Professional Centre
Halifax, NS B3H 4R7
home.istar.ca/~nssmlt

QEII/Dalhousie School of Health Services
Student Services
Office 640, Bethune Bldg.
1278 Tower Rd.
Halifax, NS B3H 2Y9
Phone: (902) 473-5510
www.dal.ca.shs

Respiratory Therapists
Society of Nova Scotia
PO Box 31219
Halifax, NS B3K 5Y1

Other Professional Occupations in Healthcare

Labour Market Conditions

- **Estimated employment in 2002 ....na**
- **Estimated change in employment between 2002 and 2007 ....na**
- **Estimated average annual number of job openings.............................na**
- **Estimated rate of unemployment in 2001.......................................na**
- **Estimated average annual earnings in 1995.......................................na**

Typical Occupations

Chiropodist
Naturopath
Orthoptist
Osteopathic Physician
Podiatrist

Nature of the Work

These occupations include healthcare professionals who diagnose and treat diseases and injuries. Podiatrists and chiropodists diagnose diseases, deformities, and injuries of the foot. Chiropodists are mainly concerned with easing pain in the feet using braces, casts, shields, splints, and physical therapy. Podiatrists are involved in some of the same activities and, in addition, are able to take x-rays, prescribe drugs, administer local anesthetics, and perform foot surgery. Osteopaths diagnose disorders and injuries of the musculo-skeletal, circulatory and nervous systems. Like medical doctors, they are able to use all known methods of diagnosis and therapy, including drugs and surgery. Naturopaths employ natural methods of healing, while orthoptists assist ophthalmologists in the diagnosis and treatment of vision disorders, eye movements, and eye alignment in children and adults.

Requirements

- In Nova Scotia, osteopaths are not considered to be medical doctors and they are not recognized by the Provincial Medical Board. In British Columbia, however, osteopaths are fully qualified physicians and surgeons. In British Columbia, Alberta, Quebec, and Ontario, these individuals are licensed by the College of Physicians and Surgeons. A minimum of a Bachelor's degree is required for entrance into a four-year program in osteopathic medicine, which is followed by one year of internship or residency; however, you should contact the Canadian Osteopathic Association for more information on requirements for osteopathy.
- Chiropodists must have a diploma in Chiropody.
- Podiatrists must have a university degree, graduate with a Doctor of Podiatric Medicine degree, and be registered with the Canadian Podiatry Association. There are currently no licensed podiatrists in Nova Scotia. They practise mainly in Ontario, Alberta, and British Columbia.
- A Bachelor of Science degree and completion of a university program in naturopathic medicine are required to practise as a naturopath.
- A Bachelor of Science degree is required for entrance to a two-year accredited, hospital-based training program in Orthoptics. Certification is by national board examination.

Training Paths

- A two-year training program in Orthoptics and Ophthalmic Medical Technology is offered at the IWK-Grace Health Centre. Admission is limited and based on academic performance, a demonstrated ability to relate well to people, and an interview. You should contact the centre for further information on the program and entrance requirements.
- Academic programs and training for most other occupations in this category are not available in Nova Scotia or elsewhere in Canada, and therefore you may have to go outside the country. A three-year diploma program in Chiropody is offered at the Michener Institute for Applied Health Sciences in Toronto, Ontario. You must complete high school with English 12 and at least one Grade 12 science course to enter. There is no Master's level training for podiatrists in Canada; however, four-year degree programs in Podiatric Medicine are available in the United States. To enter these specialized programs, you must complete at least two years of a Bachelor's degree.
- Currently, there is no training for osteopaths in Canada. However, there are seventeen colleges of Osteopathic Medicine in the United States. Admission is usually based on successful completion of a four-year Bachelor of Science degree and the score received on the Medical College Admission Test.

Skills and Aptitudes

To work in this field, you should be interested in the health and well-being of others. An interest in science is also important. You must be patient, tolerant, and sensitive to the needs of others. Good coordination and manual dexterity are necessary. Physical stamina may be needed as well.

Likely Employers

Within this small group of individuals, most work in medical laboratories or various private and group medical practices.

Other Considerations

The majority of people in these occupations work full-time and for the full year.

Related Occupations

Chiropractors
Family Physicians and Specialists
Practitioners of Natural Healing

For Further Information

Canadian Naturopatic Association
1255 Sheppard Ave., East
North York, ON M2K 1E2
www.naturopathicassoc.ca

Canadian Orthoptic Council
5–506 71st Ave., SW
Calgary, AB T2V 4V4

Canadian Osteopathic Association
575 Waterloo St.
London, ON N6B 2R2

IWK-Grace Health Centre
School of Orthoptics and Ophthalmic Medical Technology
5850 University Ave., 6 South
Halifax, NS B3J 3G9
(902) 428-8021

Personal Care Workers, Orderlies, and Other Healthcare Assistants

Labour Market Conditions

Estimated employment in 2002	8810
Estimated change in employment between 2002 and 2007	GROWING
Estimated average annual number of job openings	280
Estimated rate of unemployment in 2001	AVERAGE
Estimated average annual earnings in 1995	$17,000

Typical Occupations

Continuing Care Assistant
Home Healthcare Worker
Hospital Orderly
Orthopaedic Technologist
Personal Care Worker
Pharmacy Assistant

Nature of the Work

This group of occupations provides services and assistance to healthcare professionals. Continuing care assistants, personal care workers, and home healthcare assistants provide assistance with clients' personal care, including dressing, bathing, ambulation, exercise and homemaking, in long-term care facilities and/or in a client's home. Orderlies may serve meal trays and feed patients; collect urine specimens; transport patients in wheelchairs or on stretchers for treatment or surgery; and maintain an inventory of supplies. Duties of orthopaedic technologists include assisting orthopaedic surgeons by applying casts, splints, and bandages. Pharmacy assistants support pharmacists by compounding, packaging, and labeling pharmaceutical prescriptions.

Requirements

- Orthopaedic technologists require completion of high school and several months of on-the-job training.
- Pharmacy assistants require completion of high school and several months of on-the-job training, or a certificate program in pharmaceutical services.
- In Nova Scotia, the Department of Health and the continuing care industry now consider both personal care workers and home healthcare workers to be continuing care assistants. Completion of a certificate program which includes hands-on training in long-term care and home support is required to work as a continuing care assistant.
- There are no formal educational requirements for most of the other occupations, although programs are available that may help you gain employment.

Training Paths

- A one-year certificate in Continuing Care is offered at many Nova Scotia Community College (NSCC) campuses. This program provides the necessary training for both long-term institutional care and home support. You must have a high school diploma or equivalent for admission. Part of your program is spent on work experience through home support agencies, licensed nursing homes and homes for the aged.
- Collège de l'Acadie offers a one-year certificate program in Continuing Care.
- Programs in Continuing Care are offered at Highland Resources Limited and Island Career Academy in Sydney.
- A one-year certificate in Pharmacy Technology is available at the Institute of Technology campus of the NSCC. To be admitted to this program you require a high school diploma with Mathematics, Chemistry, and/or Biology (preference is given to candidates with Grade 12 prerequisites).
- Pharmacy Technician programs are offered through CompuCollege in Dartmouth and Cape Breton Business College in Sydney.

Skills and Aptitudes

To work in this field, you should have good interpersonal skills and a desire to help others. Patience and the ability to handle stressful situations may be needed. You must be efficient and accurate, yet sensitive to the needs of clients. Hand-eye coordination and an aptitude for detailed and precise work are necessary.

Likely Employers

Most healthcare attendants are employed in health and social services facilities, such as hospitals, nursing homes, homes for the physically or mentally disabled, and other long-term care facilities. A greater number are now being employed by home support companies and agencies, as well as private individuals and families.

Other Considerations

About three-quarters of the workers in these occupations are employed full-time.

Related Occupations

Licensed Practical Nurses
Medical Laboratory Technicians
and Technologists

For Further Information

Continuing Care Association of Nova Scotia
2786 Agricola St., Rm. 119
Halifax, NS B3K 4E1

Pharmacists

Labour Market Conditions

Estimated employment in 2002	950
Estimated change in employment between 2002 and 2007	GROWING
Estimated average annual number of job openings	30
Estimated rate of unemployment in 2001	SIGNIFICANTLY BELOW AVERAGE
Estimated average annual earnings in 1995	$51,000

Typical Occupations

Clinical Pharmacist
Hospital Pharmacist
Industrial Pharmacist
Community Pharmacist

Nature of the Work

Community and hospital pharmacists supervise the compounding and dispensing of prescribed medicines; check prescriptions for the proper dosage; maintain registries of poisons, narcotics and controlled drugs; order and maintain stock of pharmaceutical supplies; maintain medication profiles of clients, with responsibility for ensuring that prescriptions are appropriate for each client; and advise clients on selection and use of non-prescription medicines. They also advise healthcare professionals and the public on the proper selection and use of medicines. Industrial pharmacists participate in the research, development, and manufacture of pharmaceutical products; formulate and test new drug products developed by medical researchers; and coordinate clinical investigations of new drugs.

Requirements

- A Bachelor of Science in Pharmacy, a period of practical training or apprenticeship, and successful completion of the Pharmacy Examining Board of Canada examinations are required for you to practise as a pharmacist. Pharmacists must also be licensed with the Nova Scotia College of Pharmacists.
- A Master's or Ph.D. degree is usually required for research and teaching positions and often for administrative positions.

Training Paths

- A high school background suitable for admission to a Bachelor of Science program is required. This usually requires a minimum of five Grade 12 academic courses, including English 12, Pre-calculus Mathematics or Mathematics 12, and at least two science courses.
- Dalhousie University offers a four-year Bachelor of Science degree in Pharmacy. To be considered for admission, you must have one full year of study in a Bachelor of Science program with successful completion of the courses required by the pharmacy program and an acceptable score on the Pharmacy College Admission Test.

Skills and Aptitudes

To work in this field, you should have an interest in chemistry and an aptitude for detail, precision, and accuracy. Communication and interpersonal skills are essential. You must be patient and able to deal with people in a mature, tactful and responsible way. Supervisory, management, and problem-solving skills are necessary for operating your own pharmacy. Computer skills are also important.

Likely Employers

Most people in this occupation work in pharmacies and related retail trade stores. Pharmacists are also often employed by hospital pharmacies.

Other Considerations

The majority of pharmacists work full-time and for the full year. Although many are employed by retail establishments, a large proportion own their own businesses.

Related Occupations

Biologists and Related Scientists
Chemists
Technical Sales Specialists, Wholesale Trade

For Further Information

Canadian Pharmacists Association
1785 Alta Vista Dr.
Ottawa, ON K1G 3Y6
Phone: 1-800-917-9489
email: cpha@pharmacists.ca
www.pharmacists.ca

Canadian Society of Hospital Pharmacists
Nova Scotia Branch
1526 Dresden Row
PO Box 3363 South
Halifax, NS B3J 3J9
www.cshp.ca

College of Pharmacy
Dalhousie University
5968 College St.
Halifax, NS B3H 3J5
Phone: (902) 494-2378
www.dal.ca/pharmacy

Nova Scotia College of Pharmacists
1526 Dresden Row
PO Box 3363, Halifax South
Halifax, NS B3J 3J1
Phone: (902) 422-8528

Pharmacy Association of Nova Scotia
1526 Dresden Row
PO Box 3214 South
Halifax, NS B3J 3J1
www.pans.ns.ca

Labour Market Conditions

Estimated employment in 2002	450
Estimated change in employment between 2002 and 2007	GROWING
Estimated average annual number of job openings	20
Estimated rate of unemployment in 2001	SIGNIFICANTLY BELOW AVERAGE
Estimated average annual earnings in 1995	$41,000

Physiotherapists

Typical Occupations

Physical Therapist
Physiotherapist
Registered Physiotherapist
Research Physiotherapist

Nature of the Work

Physiotherapists plan and carry out individually designed programs of physical treatment to maintain, improve, or restore physical functioning and alleviate pain. They assess patients' physical abilities, plan programs of physiotherapy, including therapeutic exercise, manipulations, electrotherapy, acupuncture, massage, and hydro-therapy; maintain clinical and statistical records; and develop health promotion programs. Physiotherapists may focus their practice in particular clinical areas, such as neurology, pediatrics, orthopedics, and geriatrics, or in the treatment of patients with cardiovascular disorders, burns, or sports injuries.

Requirements

- A university degree in physiotherapy and a period of supervised practical training are required. A Master's degree may be preferred.
- Physiotherapists must be licensed by the Nova Scotia College of Physiotherapists and are required to pass the Physiotherapy Entry to Practice Examination.
- Membership in the Canadian Physiotherapy Association is not mandatory but may increase job prospects.

Training Paths

Dalhousie University offers a four year Bachelor's program in Physiotherapy. You must first be admitted to either a Bachelor of Science or Bachelor of Arts program at Dalhousie or at another university. During your first year of study, you will take the prerequisite courses for admission to the physiotherapy program and may apply to enter the School of Physiotherapy the following year. The prerequisite courses include two sciences (Physics plus Chemistry or Biology), one social science (Psychology, Sociology, or Social Anthropology), Statistics, and 1.5 electives (of which one full credit must be a writing course). An overall average of 70% is required with a minimum grade of C in any prerequisite course. The admissions process is competitive, however, and a higher average or additional undergraduate study may be preferred. You should consult the university for additional information.

Skills and Aptitudes

To work in this field, you should have an interest in health and in caring for the special needs of people. Ingenuity, initiative and imagination are needed to adapt activities to individual needs. You should be patient, self-disciplined and resourceful. The ability to inspire confidence and to motivate clients is important. A strong sense of responsibility, good judgement, and communication skills are also necessary. Physical stamina may be necessary.

Likely Employers

Most physiotherapists work in hospitals or other health centres, physiotherapy clinics, nursing homes, physicians' group practices, or medical laboratories.

Other Considerations

A growing number of people in this occupation are self-employed.
The majority are employed full-time and for the full year.

Related Occupations

Managers in Health, Education, Social, and Community Services
Other Medical Technicians and Technologists

For Further Information

Canadian Physiotherapy Association
2345 Yonge St., Suite 410
Toronto, ON M4P 2E5
www.physiotherapy.ca

Nova Scotia College of Physiotherapists
6960 Mumford Rd., Suite 25
Halifax, NS B3L 4P1
Phone: (902) 473-3846

Practitioners in Natural Healing

Labour Market Conditions

Estimated employment in 2002	na
Estimated change in employment between 2002 and 2007	na
Estimated average annual number of job openings	na
Estimated rate of unemployment in 2001	na
Estimated average annual earnings in 1995	na

Typical Occupations

Acupuncturist
Homeopath
Midwife
Reflexologist
Shiatsu Therapist

Nature of Work

Practitioners of natural healing provide alternative forms of healthcare to patients. Acupuncturists diagnose diseases, injuries, and disorders, and provide treatment through the insertion of needles or through laser or electric stimulation. Homeopaths diagnose illnesses and treat them by administering homeopathic remedies and recommending lifestyle changes. Midwives provide care and advice to women during pregnancy, labour, and the post-natal period. Reflexologists apply gentle finger pressure to specific spots on the client's hands or feet to promote relaxation and better health and well-being. Shiatsu therapists practice a gentle massage using acupuncture points for the same purpose.

Requirements

- Acupuncturists require completion of a training program in acupuncture and may also require some university courses in science or training in a related health-care discipline. Acupuncturists in Alberta, Quebec or British Columbia require certification by a provincial regulatory body in order to practise.
- Currently, midwives may only practice in Ontario, British Columbia, Quebec and Alberta. Training may be acquired through a university degree in midwifery or an acceptable equivalent, and a period of supervised practical training.
- Homeopaths, reflexologists, and shiatsu therapists must complete an appropriate training program, as well as a period of supervised practical training. These professions are self-regulated, so there are no certification requirements to practise. It is advised that you select a training program which meets the minimum standards for membership in the appropriate professional association.

Training Paths

- Programs offering training in natural healing techniques are available through the Canadian College of Natural Medicine in Bedford. You may need to attend an institution in Ontario for some disciplines. For example, the Shiatsu School of Canada offers programs in shiatsu massage and acupuncture.
- The Michener Institute offers a combined Bachelor of Health Science (Complementary Medicine) and Diploma of Acupuncture. Contact the institute for admission requirements.
- A Bachelor in Health Science in Midwifery is available through a part-time program jointly offered by McMaster, Laurentian, and Ryerson universities in Ontario. A Bachelor's degree program in midwifery is delivered in French at the University of Quebec.
- Training in homeopathy is available through the Toronto School of Homeopathic Medicine, which offers a three-year diploma program, also available as a home study program. Admission to the diploma program generally requires completion of Grade 12 plus at least two years of university or college study.

Skills and Aptitudes

Compassion, sensitivity, and a desire to help people are important. Maturity and good judgement are essential. Excellent interpersonal and communication skills are important. You should be able to inspire confidence and put people at ease.

Likely Employers

Most practitioners of natural healing techniques either operate their own practice or are members of group practices.

Other Considerations

Most people in these occupations are self-employed and work full-time for the full year.

Related Occupations

Occupations in Therapy and Assessment
Other Professional Occupations in Healthcare

For Further Information

Reflexology Association of Canada
PO Box 83008
Edmonton, AB T5T 6S1
reflexologycanada.ca

Shiatsu Therapy Association of Ontario
517 College St., Suite 232
Toronto, ON M6G 4A2
www.shiatsuassociation.com

Toronto School of Homeopathic Medicine
1246 Yonge St., Suite 301
Toronto, ON M4T 1W5
www.homeopathycanada.com

Registered Nurses

Labour Market Conditions

- **Estimated employment in 2002** 9180
- **Estimated change in employment between 2002 and 2007** ....GROWING
- **Estimated average annual number of job openings** 360
- **Estimated rate of unemployment in 2001** ...........SIGNIFICANTLY BELOW AVERAGE
- **Estimated average annual earnings in 1995**..................................$35,000

Typical Occupations

Clinical Nurse Specialist
Community Health Nurse
Hospital Staff Nurse
Nurse Manager
Nurse Researcher
Nurse Practitioner

Nature of the Work

Nurses provide professional services to patients to promote, maintain, and restore health, and assist in the management of illness, injury, or infirmity. The provision of nursing services involves a variety of roles for nurses, including direct care provider, health teacher, consultant, administrator, and researcher. Registered nurses may specialize in nursing practice areas such as the operating room; obstetrics (new mothers); mental health; palliative, emergency or critical care; pediatrics (children); geriatrics (elderly); community and occupational health; rehabilitation; or oncology (cancer). Nurses in managerial positions coordinate the activities of other registered nurses and nursing support personnel to facilitate the provision of safe, effective, competent patient care. They ensure that administrative procedures are followed; develop policies; develop and administer budgets; and assist in the hiring and performance review of nursing personnel.

Requirements

- Nurses in Nova Scotia are required to be licensed with the College of Registered Nurses of Nova Scotia. The minimum requirement for licensing is a Bachelor of Science in Nursing and a pass mark on the Licensure Exam.
- Additional educational preparation or degrees are required for positions in management, teaching, research, or advanced nursing practice.
- Persons who have been convicted of an indictable offense under the Criminal Code (Canada), the Food and Drug Act (Canada), the Controlled Drugs and Substances Act (Canada), or any other similar legislation in any province or country and who have not received a pardon may not be eligible for licensing.

Training Paths

- Bachelor's degree programs in Nursing are available at Dalhousie and St. Francis Xavier universities. These programs combine in-class theory with clinical practice. You will need to complete high school with at least five academic courses at the Grade 12 level, including at least English, Mathematics, Chemistry, and one other science course. Dalhousie requires that this course be Biology, while St. Francis Xavier will accept either Biology or Physics. Graduates of the Practical Nursing Program at the Nova Scotia Community College (NSCC) may be granted advanced standing when applying to the degree nursing program. To be admitted to the nursing program at Dalhousie, you will require a minimum average of 70%, with 70% in each required course. Admission to the program at St. Francis Xavier University requires a minimum average of 65% in both Grades 11 and 12, with 70% being preferred. You should consult with the university admissions offices for further information on admission requirements.
- Dalhousie University offers a Master's degree in Nursing.

Skills and Aptitudes

To practise nursing, you should have a desire to respond to the emotional, physical, and social needs of people. You should also have skills and aptitudes in the following areas: interpersonal relationships; communication; emotional stability; critical thinking; good judgement; and creativity. Good health and physical stamina may also be required.

Likely Employers

Although the majority of nurses work in hospitals, they are also often employed by other health and social service centres such as nursing homes, rehabilitation clinics, doctors' offices, and long-term facilities.

Other Considerations

The majority of people in these occupations work full-time and for the full year.

Related Occupations

Licensed Practical Nurses
Managers in Health, Education, Social, and Community Services

For Further Information

Canadian Nurses Association
50 The Driveway
Ottawa, ON K2P 1E2
Phone: (613) 237-2133
email: jboyd@cna-nurses.ca
www.cna-nurses.ca

College of Registered Nurses
of Nova Scotia
1894 Barrington St., Suite 600
Halifax, NS B3J 2A8

Technical Occupations in Dental Care

Labour Market Conditions

- Estimated employment in 2002.........190
- Estimated change in employment between 2002 and 2007.............GROWING
- Estimated average annual number of job openings..............................10
- Estimated rate of unemployment in 2001 ...........SIGNIFICANTLY BELOW AVERAGE
- Estimated average annual earnings in 1995.................................$29,000

Typical Occupations

Ceramic Dental Caster
Dental Technologist
Denturist

Nature of the Work

Dental technologists are members of the dental health team who work in laboratories to construct and repair dental devices used in orthodontic treatment, such as bridgework and dentures. They also replicate artificial teeth and related structures. This work is always in accordance with the prescription of the dentist or specialist. The status of Registered Dental Technician enables you to operate a dental laboratory. Denturists provide complete denture service directly to the public. Activities may include measuring patients' jaws to determine size and shape of dentures; making impressions of patients' teeth, gums and jaws; constructing dentures; and fitting, modifying and repairing dentures. Ceramic dental casters prepare plaster models and moulds from dental impressions.

Requirements

- Denturists must be licensed by the Denturist Licensing Board of Nova Scotia.
- Dental technicians must be registered with the Nova Scotia Dental Technicians Association to own and operate a dental laboratory in the province. To register, you must apply for and complete a minimum four-year apprenticeship (including the two years of training) and pass five examinations, written and practical. Apprenticeship must be done under the direct supervision of a registered technician in a registered dental laboratory.

Training Paths

- Nova Scotia Community College (NSCC) has suspended intake into its two-year diploma programs for dental technicians and denturists. Contact NSCC for information on the availability of these programs.
- George Brown College in Toronto offers three-year diploma programs in Denturism and Dental Technology. Admission to both these programs requires a high school diploma with English 12, and courses in grade 11 or 12 Chemistry, Physics, and Biology. A manual dexterity test may be required.

Skills and Aptitudes

To work in this field, you should have good interpersonal skills and a desire to help others. Patience and the ability to handle stressful situations may be needed. You must be efficient and accurate, yet sensitive to the needs of patients. Hand-eye coordination and an aptitude for detailed and precise work are necessary. Artistic ability may also be helpful.

Likely Employers

Many dental technicians work with firms that manufacture dentures and artificial teeth and in laboratories. Also, there are some job opportunities in hospitals, laboratories, and research institutions. As a denturist you could either operate your own business or work in an established dental practice.

Other Considerations

The majority of workers in these occupations work full-time and for the full year.

Related Occupations

Dental Hygienists and Dental Assistants
Dentists

For Further Information

Denturist Licensing Board of Nova Scotia
PO Box 935, Station M
Halifax, NS B3J 2V9

Denturist Society of Nova Scotia
141 Commercial St.
Glace Bay, NS B1A 3B9
www.denturist.org

Nova Scotia Dental Technicians Association
PO Box 623
Halifax, NS B3J 2R7

Veterinarians

Labour Market Conditions

- **Estimated employment in 2002** 100
- **Estimated change in employment between 2002 and 2007** .... STABLE
- **Estimated average annual number of job openings** 5
- **Estimated rate of unemployment in 2001** .... AVERAGE
- **Estimated average annual earnings in 1995** $46,000

Typical Occupations

Large Animal Veterinarian
Small Animal Veterinarian
Veterinary Pathologist
Veterinary Physiologist
Zoo Veterinarian

Nature of the Work

Veterinarians care for pets, livestock, sporting animals and laboratory animals, and protect humans against diseases carried by animals. They also diagnose, treat, control, and prevent animal disorders and disease. Activities may include advising clients on feeding, breeding, and care of animals; operating hospitals; and raising animals to be used in research. Typically, veterinarians diagnose medical problems in their animal patients, perform surgery, and prescribe and administer medicines. Although many veterinarians work regular hours, those in private practice often work long hours, including evenings, weekends and holidays.

Requirements

Veterinarians must be licensed to practise in Nova Scotia. To be licensed, you must have a four-year degree in Veterinary Medicine from a recognized school. You must also write the National Examining Board exam and become a member of the Nova Scotia Veterinary Medical Association.

Training Paths

- You will need to complete high school with the required courses for admission to a Bachelor of Science program. These include at least English 12, Pre-calculus Mathematics or Mathematics 12, and two science courses, with Biology and Chemistry recommended.
- A Bachelor of Science degree is recommended as preparation for veterinary college, as entrance into this field is competitive. You may be accepted, however, with two years of pre-veterinary study, a solid academic background, plus considerable farm and clinical experience. The Nova Scotia Agricultural College offers a two-year pre-veterinary program, or the required courses can be taken in the first two years of a university Bachelor of Science program. Whether applying after two, three, or four years of study, you must complete the specific courses required by the veterinary college to be considered for admission to the veterinary program.
- The Atlantic Veterinary College of the University of Prince Edward Island offers a four-year Doctor of Veterinary Medicine program. Enrollment is limited. In addition to the academic requirements for admission, you will also require two veterinary-related experiences of at least 40 hours each, under the supervision of a veterinarian. One of these experiences must involve clinical practice. The admission committee also considers extra-curricular activities, experience with and knowledge of animals, communication skills, maturity, and leadership skills. Please consult the University of Prince Edward Island calendar for the specific admission requirements.

Skills and Aptitudes

To work in this field, you should have compassion, a fondness for animals, and an interest in science, especially biology, chemistry, and physics. Good health, stamina, and emotional stability are necessary, as veterinarians often work long and irregular hours. You must be patient, reliable, mature, and responsible. Good oral and written communication skills are also needed. Some business knowledge would be helpful in running a private practice.

Likely Employers

Most veterinarians are employed in private practices, although some work in animal hospitals or group clinics.

Other Considerations

The majority of veterinarians work full-time and for the full year.

Related Occupations

Biologists and Related Scientists
Other Medical Technicians
and Technologists
Pet Groomers and Animal Care Workers

For Further Information

Canadian Veterinary Medical Association
339 Booth St.
Ottawa, ON K1R 7K1
Phone: (613) 236-1162
www.canadianveterinarians.net

Nova Scotia Veterinary Medical
Association
15 Cobequid Rd.
Lower Sackville, NS B4C 2M9
Phone: (902) 865-1876

Management Occupations

Managers in Administrative Services

Labour Market Conditions

- **Estimated employment in 2002 ....3070**
- **Estimated change in employment between 2002 and 2007 ....GROWING**
- **Estimated average annual number of job openings 120**
- **Estimated rate of unemployment in 2001 ....BELOW AVERAGE**
- **Estimated average annual earnings in 1995...............................$50,000**

Typical Occupations

Director of Accounting
Financial Control Manager
Health Records Administrator
Human Resources Manager
Purchasing Manager
Support Services Manager

Nature of the Work

Managers of administrative services coordinate and direct organizational support services in business and government. Managers in this group develop overall plans and develop procedures for support services. They may also be involved in hiring and training new staff. Financial managers, such as directors of accounting or financial control managers, coordinate the preparation of financial statements and reports. They evaluate financial reporting systems, accounting procedures, and investment activities and make recommendations for changes to procedures, operating systems, budgets, and other financial control functions. Human resources managers are responsible for human resource planning, recruitment, collective bargaining, training and development, occupation classification, and pay and benefit administration.

Purchasing managers develop purchasing policies and procedures, negotiate purchase contracts, participate in the development of specifications for equipment, products or materials, and review and process claims against suppliers. Support services managers manage the operations of a department providing one or several administrative services, such as administration, word processing, payroll preparation, mail services, records management, printing, security, and parking.

Requirements

- Financial managers are required to obtain at least a Bachelor's degree in Business Administration, Economics, Commerce, Computer Science, Accounting, Finance, or a related area. Several years of experience in accounting, auditing, budgeting, financial planning and analysis, or other financial activity are also required. Accounting and audit managers may be required to obtain a recognized accounting designation.
- Human resources managers are required to have at least a Bachelor's degree in a field related to personnel management, such as Business Administration, Industrial Relations, Commerce, or Psychology, plus several years of experience as a personnel officer or human resource specialist. A Master's degree in Business Administration or Public Administration with a concentration in Human Resources or Organizational Behaviour is advised.
- Purchasing managers are required to have a Bachelor's degree in Commerce, Business Administration, or Economics plus several years of work experience as a purchasing officer or agent. Purchasing managers responsible for purchasing specialized materials or business services may be required to obtain a related Bachelor's degree or diploma. For example, purchasing managers responsible for purchasing industrial products may be required to obtain a Bachelors' degree or diploma in Engineering.
- Other administrative services managers, such as support services managers, may be required to obtain at least a Bachelor's degree in Business Administration or a related administrative services field and several years of experience at a professional level in business administration, finance, or administrative services.
- To become a health record administrator, you will be required to complete a two- to three-year college program in health record management. Certification by the Canadian Health Record Association may also be required. To secure a management position in any of these fields, it is advised that you complete a Master's degree in Business Administration, Public Administration, or Economics.

Training Paths

- Many universities throughout the province offer Bachelor's degree programs in Commerce, Economics, Business Administration, and Psychology. Many universities and colleges also offer diploma or certificate programs in several areas of business and engineering. To enter the Bachelor's degree or diploma programs, you must complete high school. Degree programs usually require completion of at least five Grade 12 academic courses, including English 12 and Mathematics 12 or Pre-calculus Mathematics.
- Dalhousie University offers several Bachelor's and Master's degree programs in various areas of Engineering.
- Dalhousie and Saint Mary's universities offer two-year Master's programs in Business Administration (MBA) and Psychology. Dalhousie University also offers a Master's program in Public Administration. To enter the MBA program, you must have a Bachelor's degree and a satisfactory score on the Graduate Management Admissions Test (GMAT). The GMAT may not always be required for entrance into the Master of Public Administration program. To enter the Psychology program at the Master's level, you must have at least a Bachelor's degree and may be required to complete the Graduate Record Examination (GRE).
- A certificate program in Human Resources Management is offered by the Human Resources Association in cooperation with the Continuing Education division of Saint Mary's University. To obtain the certificate, a student must complete the equivalent of eight full-course degree credits. Successful completion of the program (or its equivalent) is a prerequisite for membership in the Human Resources Association of Nova Scotia. Dalhousie University's Henson College offers a distance education, six-credit certificate program in Human Resource Management. Contact the college for information on entrance requirements.
- The Nova Scotia Community College offers a one-year diploma program in Human Resource Management at the Halifax Campus. To enter, you must have a Bachelor's degree or equivalent.
- A Professional Purchaser diploma is available through correspondence from the Purchasing Management Association of Canada or the National Institute of Canada.

- Certified Management Accountant (CMA) and Certified General Accountant (CGA) programs are available to those with a high school diploma. The CGA program is completed on a distance education basis with advanced standing being granted for the successful completion of some university or community college courses. Saint Mary's University offers the CMA program as a degree program. The Chartered Accountant (CA) program normally requires a Bachelor's degree and employment with a chartered accounting firm or government. The length of these programs may vary from two to six years. For further program details on the professional accounting designations, you should contact the education liaison officer of the accounting associations listed below.
- A 22-month Health Record Administrator program and a 12-month Health Record Technician program are offered at the Queen Elizabeth II Health Sciences Centre. To enter, you must have successfully completed high school with Mathematics 12 or Pre-calculus Mathematics, English 12, and two sciences, and have computer experience.
- The School of Health Services Administration at Dalhousie University offers a four-year Bachelor's degree program in Health Information Management. Admission requirements include completion of grade 12 with Mathematics 12 or Pre-calculus Mathematics, English 12, and two sciences.
- Mount Saint Vincent University offers both diploma and degree programs in Information Technology with an option in records management. Please contact the university for further information on these programs.

Skill and Aptitudes

To work in this area you need to be organized and able to meet deadlines. You must be analytical, flexible, attentive to detail, and able to make decisions. You need good written and oral communication skills, and you must be able to establish effective working relationships with a variety of people.

Likely Employers

Managers of administrative services are employed in a number of diverse fields, such as public administration, business services, education, health, and social services. Many of these managers are employed by the federal or provincial government, or by finance, insurance, and real estate firms. Others are employed by universities, hospitals, or social service agencies.

Other Considerations

Traditionally, most people in these occupations have worked full-time and for the full year. However, many companies are now contracting with outside firms to provide various professional services. Therefore, the number of people in these occupations who work on a contract basis may increase in the future.

Related Occupations

Administrative Occupations
Financial Auditors and Accountants
Managers in Financial, Communications, and Other Business Services
Specialists in Human Resources

For Further Information

Canadian Association of
Management Consultants
181 Bay St.,
Heritage Building, Floor 2R
Toronto, ON M5S 2T3
www.camc.com

Canadian Health Record Association
1090 Don Mills Road, Suite 501
Don Mills, ON M3C 3R6
www.chra.ca

Canadian Institute of Management
PO Box 162
Halifax, NS B3J 2M4
email: halifax-dartmouth@cim.ca
www.cim.ca

Certified General Accountants'
Association of Nova Scotia
5251 Duke St., Suite 416
Halifax, NS B3J 1P3
www.cga-ns.org

CMA Canada–Nova Scotia
1559 Brunswick St., Suite 1559
Halifax, NS B3J 2G1
www.cmans.com

Department of Health Science Education
Queen Elizabeth II
Health Sciences Centre
1278 Tower Road, Office 640
Halifax, NS B3H 2Y9
www.dal.ca.shs

Institute of Chartered
Accountants of Nova Scotia
1791 Barrington St., Suite 1101
Halifax, NS B3J 3L1
www.icans.ns.ca

Institute of Internal Auditors
Maritime Chapter
PO Box 95
Halifax, NS B3J 2M4
www.cia-maritimes.ns.ca

Institute of Public
Administration of Canada
1075 Bay St., Suite 401
Toronto, ON M5S 2B1
www.ipaciapc.ca

Insurance Institute of Nova Scotia
Duke Tower
5251 Duke St., Suite 414
PO Box 1561
Halifax, NS B3J 2Y3

International Personnel Management
Association–Canada
14868 41st Avenue
Edmonton, AB T6H 5N7
www.ipma-aigp.ca

Purchasing Management
Association of Canada
Nova Scotia Institute
PO Box 910
Halifax, NS B3J 2W5
www.pmac.ca

Managers in Art, Culture, Recreation, and Sport

Labour Market Conditions

Estimated employment in 2002	**490**
Estimated change in employment between 2002 and 2007	**GROWING**
Estimated average annual number of job openings	**20**
Estimated rate of unemployment in 2001	**ABOVE AVERAGE**
Estimated average annual earnings in 1995	**$39,000**

Typical Occupations

Art Gallery Manager
Broadcasting Station Manager
Director of Recreation
Library Manager
Managing Editor
Museum Administrator
Professional Hockey Team Manager

Nature of the Work

These managers develop and administer policies and are often responsible for budgeting, staff training, and public relations. An art gallery manager or museum administrator develops and administers policies and programs related to the activities of a gallery or museum. This may include performing the duties of a curator and preparing funding proposals and grant applications.

A broadcasting station manager plans and controls production schedules, consults with government regulatory agencies and reviews programs and policies to ensure conformance to regulations; and initiates or approves the development of broadcasts.

A director of recreation may develop and manage recreation programs and services, provide professional advice on recreation, and direct fundraising drives and arrange for sponsorships. A library manager recruits and provides training for professional, technical, and clerical staff, and may also perform the duties of a librarian or archivist. A managing editor plans and maintains publication schedules, and initiates and approves the development of articles and books.

A professional hockey team manager manages a professional hockey team, recruits professional coaches and athletes, develops schedules and long-range plans, and negotiates business contracts.

Requirements

- Library managers are usually required to obtain a Master's degree in Library and Information Studies and several years of experience as a librarian, including supervisory experience. Library managers may be required to obtain further specialization, depending on the environment within which they are employed.
- A Bachelor's degree, Master's degree, or diploma in Communications, Broadcasting, or Journalism is required to become a manager in broadcasting or a news editor.
- Recreation and sport program and service directors are required to have at least a Bachelor's degree or college diploma in Physical Education, Sports Administration, Recreation Management, or a related area plus several years of experience in an occupation related to recreation and sport administration, consulting, or programming. Executive directors of sport governing agencies may be required to have coaching certification in a particular field or background in non-profit association management.

Training Paths

- The only accredited university program in Library and Information Studies is offered at Dalhousie University. This Master's degree program requires completion of at least a Bachelor's degree in any discipline with a minimum B average for entrance.
- The University of King's College offers a four-year Bachelor of Journalism (Honours) degree for students entering after Grade 12 and a one-year Bachelor of Journalism program for those with a previous Bachelor's degree.
- A three- or four-year Bachelor of Arts degree with a major in English is available at most universities throughout the province.
- A two-year diploma program in Recreation Leadership is available at the Truro Campus of the Nova Scotia Community College (NSCC). The admission requirement is a high school diploma with English 12 or equivalent.
- Dalhousie University offers a five-year dual degree program leading to a Bachelor of Science in Recreation and Bachelor of Management. Admission requirements include high school courses in biology or chemistry.
- A two-year diploma program in Radio and Television Arts is offered at the Kingstec Campus of the Nova Scotia Community College (NSCC). Admission requirements include a high school diploma, strong written and verbal communications skills as demonstrated in a submitted portfolio, and a personal interview.
- A program in Radio and Television Arts is also offered at Memorial High School in Sydney Mines. Students who have completed Grade 10 may take the program in two years in conjunction with their high school academic studies, and graduates may complete the program in one year. The program is open to all Nova Scotian students, with those from the Cape Breton Regional School Board area given preference.
- A program in media arts is available through the Atlantic Media Institute.
- Ryerson Polytechnical Institute, Seneca College, and many other colleges in Ontario offer programs in this field. You may contact the schools for specific program details and entrance requirements.

Skills and Aptitudes

To work in these occupations, you need good organizational and managerial skills. An ability to work under pressure is important. You must be decisive. You need to work well with others. Effective communication skills, both written and oral, are also important.

Managers in Art, Culture, Recreation, and Sport

Likely Employers

Most people in this occupation work in the amusement and recreational service industry, the communication industry, or the education sector. Library, museum, and art gallery managers are employed by libraries, museums, and non-retail art galleries. Broadcasting station managers are employed by radio and television broadcasters. Managing editors work for newspaper, periodical, and book publishing firms. Directors of recreation are employed by municipalities and community and private recreational organizations. Athletic team managers, such as hockey team managers, work for professional athletic team organizations.

Other Considerations

Nearly all managers in art, culture, recreation, and sport are full-time workers, and about half work 50 or more hours per week.

Related Occupations

Announcers and Other Broadcasters
Librarians, Archivists, and Conservators
Occupations in Public Relations
    and Communications
Occupations in Recreation and Sports
Writers, Editors, and Journalists

For Further Information

Canadian Association of Broadcasters
PO Box 627, Stn. B
Ottawa, ON K1P 5S2
www.cab-acr.ca

Canadian Museums Association
280 Metcalfe St., Suite 400
Ottawa, ON K2P 1R7
www.museums.ca

Editors' Association of
Canada/Association Canadienne
des Réviseurs
27 Carleton St., Suite 502
Toronto, ON M5B 1L2
www.editors.ca

Nova Scotia Department
of Tourism and Culture
Cultural Affairs Division
PO Box 456
Halifax, NS B3J 2R5
www.gov.ns.ca/dtc

Nova Scotia Sport
and Recreation Commission
5516 Spring Garden Rd., 2nd Floor
Halifax, NS B3J 2V2
www.gov.ns.ca/src

Managers in Emergency and Protective Services

Labour Market Conditions

- Estimated employment in 2002 170
- Estimated change in employment between 2002 and 2007 ....STABLE
- Estimated average annual number of job openings 5
- Estimated rate of unemployment in 2001 ..........SIGNIFICANTLY BELOW AVERAGE
- Estimated average annual earnings in 1995.................................$65,000

Typical Occupations

Director of Fire and Emergency Service
Police Chief
RCMP Commissioner

Nature of the Work

This group of occupations includes managers who plan and direct activities and operations of a police force, a fire department, or a military unit. Commissioned police officers primarily administer activities such as maintaining law and order and detecting and preventing crime. Fire chiefs and senior firefighting officers control firefighting operations and fire prevention activities. Individuals in these occupations may be responsible for the supervision and coordination of rescue and emergency response operations.

Requirements

- Police chiefs or RCMP officers are required to complete high school and may be required to complete a university degree in the social sciences, Police Science, or Business Administration. Several years of experience as a police officer is required.
- Directors of fire and emergency services and senior firefighting officers are required to complete high school and a course such as Fire Administration, or Fire Engineering. These courses may be provided on the job. A minimum of five years of experience as a firefighter is usually required to become eligible for a senior officer position.
- To become a commissioned officer in the Armed Forces, a university degree is usually required, along with completion of military training. Several years of experience as a member of the armed forces may be required.

Training Paths

- Training for firefighters is ongoing and occurs both on and off the job. The Nova Scotia Firefighters School in Waverley offers upgrading courses in all areas of firefighting and rescue operations and you may be sponsored by an employer.
- Many universities across the province offer Bachelor's degrees or diplomas in Criminology and other social sciences. To enter, you must successfully complete high school, including English 12.
- Holland College in Prince Edward Island offers a program in Police Science (Cadet). The program runs for 32 weeks, including 12 weeks of on-the-job training. Applicants must meet the procedures for police recruiting and selection standards as set out by the Province of Nova Scotia. Minimum academic requirement is completion of Grade 12 with academic courses. Preference will be given to applicants with university or other post-secondary education in a related area.
- A one-year certificate program in Protective Security is offered at the Truro campus of the Nova Scotia Community College (NSCC). The entrance requirement is a high school diploma; students must be 19 years old by the time they enter their work placement.
- The Truro campus of the NSCC also offers a two-year diploma program in Human Services, with a second-year concentration in Correctional Services. The entrance requirement is a high school diploma. Students must be at least 19 years of age; preference is given to mature students. A criminal record check and medical certificate are required.
- The RCMP requires you to successfully complete a six month RCMP Cadet training program in Regina, Saskatchewan. To be eligible, you must complete the RCMP Recruitment Selection Test with a score well above the minimum of 84/145, pass a physical abilities test, be in possession of a valid St. John Ambulance First Aid Certificate and a valid Level C Cardiopulmonary Resuscitation (CPR) Certificate. A successful clearance check is also necessary to gain admission to the program.
- Dalhousie University's Henson College offers several distance education certificate programs for firefighters and police officers. These include Fire Service Leadership, Fire Service Administration, and Police Leadership.
- The School of Heatlh Services Administration at Dalhousie University offers a diploma in Emergency Health Services Management through distance education.

Skills and Aptitudes

To work in these occupations, you need good organizational and managerial skills. An ability to work under pressure is important. You must be decisive. You need to work well with others. Effective communication skills, both written and oral, are also important.

Likely Employers

Nearly all managers in emergency and protective services work with federal or municipal governments.

Other Considerations

Most workers in these occupations work full-time.

Related Occupations

Canadian Forces
Emergency Medical Technicians
Firefighters
Occupations in Protective Service
Police Officers

For Further Information

Halifax Regional Fire & Emergency Service
PO Box 1749
Halifax, NS B3J 3A5
www.region.halifax.ns.ca/Fire

Nova Scotia Firefighters School
PO Box 309
Waverley, NS B0N 2S0
www.nsfs.ns.ca

Royal Canadian Mounted Police
H Division, Staffing and Personnel Office
PO Box 2286, Stn. M
Halifax, NS B3J 3E1
Phone: (902) 426-7640
www.rcmp-grc.gc.ca

Managers in Facility Operation and Maintenance

Labour Market Conditions

- **Estimated employment in 2002 ....800**
- **Estimated change in employment between 2002 and 2007 ....GROWING**
- **Estimated average annual number of job openings 40**
- **Estimated rate of unemployment in 2001 ....AVERAGE**
- **Estimated average annual earnings in 1995.............................$36,000**

Typical Occupations

Airport Manager
Maintenance Manager
Plant Maintenance Superintendent
Recreational Facility Manager
Shopping Mall Manager

Nature of the Work

Facility operation managers plan and direct the operations of commercial, transportation, and recreational facilities, such as aquatic facilities, marinas, arenas, rinks, airports, convention centres, shopping malls, and warehouses. Maintenance managers plan and direct the maintenance department within these facilities. Duties of facility managers, such as an airport manager, recreational facility manager, or shopping mall manager, include overseeing the leasing of facility space, planning and directing administrative services, and planning and managing budgets. They also have responsibility for recruiting and training personnel, maintenance, security and operations. Maintenance managers and plant maintenance superintendents are responsible for directing the maintenance and repair of equipment, developing schedules and procedures, administering contracts for provision of service, and recruiting and training personnel.

Requirements

- Completion of a college or university program in Business Administration or in a discipline related to facility operation is required for facility management positions. An equivalent combination of technical training and experience in Administration or maintenance is also appropriate. A few years of supervisory experience in facility operations may also be required for management positions in large facilities.
- Maintenance managers require completion of a college or university program in electrical or mechanical engineering or in a discipline related to building maintenance. An equivalent combination of technical training and experience in building maintenance may also be acceptable. Several years of supervisory experience in maintenance are usually required before advancing to managerial positions.

Training Paths

- Many universities throughout the province offer degree and diploma programs in Business Administration. Admission to the Bachelor's degree or diploma programs usually requires high school completion with five academic credits including English 12 and Mathematics 12 or Pre-calculus Mathematics.
- The Institute of Technology Campus of the Nova Scotia Community College (NSCC) offers programs leading to diplomas in related areas of technical training. Heating, Ventilation, Air Conditioning/Refrigeration requires high school completion, with a preference for applicants with an academic science and mathematics background. Electrical Engineering Technology requires either high school graduation with Grade 12 English, Pre-calculus Mathematics, Physics, and Chemistry, or equivalent.
- A two-year diploma in Engineering is available through Acadia University, Saint Mary's University, St. Francis Xavier University, and University College of Cape Breton (UCCB). Minimum admission requirements include completion of Grade 12 with Pre-calculus Mathematics, English, Physics, and one other science, with Chemistry preferred or required. These diploma programs may be taken as the first part of the Bachelor of Engineering program in association with Dalhousie University.
- Georgian College in Ontario offers a three-year cooperative education Aviation Management diploma program through the Canadian Aviation Institute. This program provides a high level of knowledge and skills required for entry-level management and operation positions in aviation related industries. You should contact the Institute for entrance requirements.
- The Recreation Facility Association of Nova Scotia provides training programs related to facility management for those employed by recreation facilities.

Skills and Aptitudes

For these occupations, you need excellent communication, interpersonal, and negotiating skills along with confidence and initiative. Common sense and mathematical skills are important. You must be willing to accept new ideas, take risks, and make careful decisions. You need good written and oral communication skills and you must be able to establish effective working relationships with a variety of people. Familiarity with computers would be helpful.

Likely Employers

Individuals in these occupations tend to be employed in the real estate operator industry, with the federal and local governments, or with amusement and recreational services companies.

Other Considerations

Most people in these occupations are employed full-time and for the full year.

Related Occupations

Administrative Occupations
Contractors and Supervisors,
  Trades, and Related
Managers in Administrative Services
Managers in Service-producing Industries
Occupations in Recreation and Sports

For Further Information

Canadian Aviation Institute
Georgian College
One Georgian Dr.
Barrie, ON L4M 3X9
www.georgianc.on.ca

Recreation Facility
Association of Nova Scotia
5516 Spring Garden Rd., 3rd Floor
Halifax, NS B3J 1G6
www.rfans.com

Managers in Financial, Communications, and Other Business Services

Labour Market Conditions

Estimated employment in 2002	4490
Estimated change in employment between 2002 and 2007	GROWING
Estimated average annual number of job openings	120
Estimated rate of unemployment in 2001	SIGNIFICANTLY BELOW AVERAGE
Estimated average annual earnings in 1995	$58,000

Typical Occupations

Bank Manager
Cage Manager
Engineering Manager
Information Systems Manager
Insurance Claims Manager
Telecommunications Manager

Nature of the Work

This group of occupations includes senior and middle management concerned with planning, organizing, and directing activities in industrial, commercial, governmental, or other settings. Duties vary by occupation but involve planning, organizing, directing, and controlling specialized institutions, firms, or departments. This may include developing policies and procedures, controlling budgets, negotiating with clients, ensuring compliance with governmental regulations, and recruiting and training personnel.

Bank managers and other investment managers also promote loan, investment, and other banking services, and approve or reject loan applications. Cage managers manage the operational aspects of an investment firm. Engineering managers may participate directly in the design, development, and inspection of technical projects or engineering work. Information systems managers analyze computerized information system and data processing requirements, and develop and implement new systems. Insurance claims managers manage departments or institutions that handle insurance claims. Telecommunications managers direct and control telephone or satellite telecommunications within an area, evaluate installation, operation, and maintenance services, and liaise with representatives of related or connecting companies to ensure efficient operations.

Requirements

- A Bachelor's degree in a discipline related to the service provided, such as Business Administration, Commerce, Economics, or Computer Science, and several years of related experience are required.
- Managers in finance are usually required to have a professional accounting designation. You may also require courses offered by the Canadian Securities Institute, for example, the Branch Managers Course or the Futures Licensing Course.
- Real estate, mortgage broker, securities, and insurance managers must be licensed.
- Telecommunication carrier managers and engineering managers are required to obtain several years of experience in a related technical profession, including supervisory experience.

Training Paths

- Many universities throughout the province offer Bachelor's degree programs in Commerce, Computer Science, Economics, and Business Administration. These programs are usually three to four years in length. Admission usually requires high school completion with a minimum of five Grade 12 academic credits including English 12 and Mathematics 12 or Pre-calculus Mathematics.
- Some of these universities also offer more advanced programs. For example, a Master's degree in Business Administration is available as a two-year program at Dalhousie and Saint Mary's universities. To enter, you must have a Bachelor's degree and a satisfactory score on the Graduate Management Admissions Test (GMAT).
- A two-year Engineering diploma program is available through Acadia University, Saint Mary's University, St. Francis Xavier University, and University College of Cape Breton (UCCB). These programs may be taken as the first part of the Bachelor of Engineering program in association with Dalhousie University. Dalhousie University offers Bachelor's and Master's degree programs in various areas of Engineering. Dalhousie also offers a Bachelor of Environmental Design degree and a two-year Master of Architecture degree.
- You may also want to check into investment programs and designations offered by the Canadian Securities Institute. Specific training programs are available for various financial management positions.
- The Certified Management Accountant (CMA) program requires enrolment in a Bachelor of Commerce or Bachelor of Business Administration program, and two to three years of advanced study combined with practical experience prior to receiving the CMA designation. The Certified General Accountant (CGA) program is completed on a distance education basis, with advanced standing being granted for the successful completion of some university or community college level courses. The Chartered Accountant (CA) program normally requires a Bachelor's degree and employment with a chartered accounting firm or government. The length of these programs may vary from two to six years. For further program details on the professional accounting designations, see *Financial Auditors and Accountants* or contact the education liaison officer of the accounting associations listed below.
- Training to become a real estate or insurance manager is usually provided through several years of on-the-job training, along with completion of several academic programs provided by various real estate and insurance associations and institutes in Canada. Many of these programs are employer-sponsored. You should contact the Nova Scotia Real Estate Commission or the Insurance Institute of Nova Scotia for further details on formal academic and training programs.

Managers in Financial, Communications, and Other Business Services

Skills and Aptitudes

To work in these occupations, you need strong leadership qualities and an ability to motivate others. You need excellent organizational, problem-solving, planning, and decision-making skills. You must have confidence and initiative, and you need excellent communication and interpersonal skills.

Likely Employers

The majority of individuals in these occupations are employed by companies in the finance, insurance, or real estate fields. Also, some are employed by telecommunications firms or by companies providing business services.

Other Considerations

Traditionally, most people in these occupations have been full-time and full-year workers.

Related Occupations

Computer Engineers
Computer Programmers and
  Systems Analysts
Financial Auditors and Accountants
Industrial and Manufacturing Engineers
Professional Occupations in Business
  Services to Management

For Further Information

Association of Professional
Engineers of Nova Scotia
1355 Barrington St.
PO Box 129
Halifax, NS   B3J 2M4
www.apens.ns.ca

Canadian Association
of Financial Planners
1st St. Clair Ave. East, Ste 700
Toronto, ON   M4T 2V7
www.cafp.org

Canadian Institute of Management
PO Box 162
Halifax, NS   B3J 2M4
email: halifax-dartmouth@cim.ca
www.cim.ca

Canadian Securities Institute
121 King St. West, 15th Floor
Toronto, ON   M5H 3T9
Phone: (416) 364-9130
www.csi.ca

Certified General Accountants'
Association of Nova Scotia
5251 Duke St., Suite 416
Halifax, NS   B3J 1P3
www.cga-ns.org

CMA Canada–Nova Scotia
1559 Brunswick St., Suite 500
Halifax, NS   B3J 2G1
www.cmans.com

Institute of Chartered
Accountants of Nova Scotia
1791 Barrington St., Suite 1101
Halifax, NS   B3J 3L1
www.icans.ns.ca

Insurance Institute of Nova Scotia
100 Main St., Suite 250
Dartmouth, NS   B2X 1R5

Investment Dealers' Association
of Canada
1791 Barrington St., Suite 1620
Halifax, NS B3J 3K9
email: atlantic@ida.ca
www.ida.ca

Nova Scotia Real Estate Commission
7 Scarfe Court
Burnside Industrial Park
Dartmouth, NS   B3B 1W4
Phone: (902) 468-3511
www.nsrec.ns.ca

Managers in Goods-Producing Industries

Labour Market Conditions

- **Estimated employment in 2002 ....5320**
- **Estimated change in employment between 2002 and 2007 ....GROWING**
- **Estimated average annual number of job openings 140**
- **Estimated rate of unemployment in 2001 ...........SIGNIFICANTLY BELOW AVERAGE**
- **Estimated average annual earnings in 1995.................................$52,000**

Typical Occupations

Director, Water Supply
General Contractor
Home Renovator
Manager, Gas Field Operations
Paper Mill Manager
Railway Freight Manager

Nature of the Work

Managers within this group of occupations plan and direct the activities of a company or department that produces or distributes products. This includes such operations as construction, transportation, forestry, fishing, and manufacturing and distribution of oil, gas, water and electricity. A director of water supply manages water filtration, purification processes, and pumping operations. The director also prepares reports on water supply and quality. A general contractor manages construction projects from start to finish according to schedule, specifications, and budget. A home renovator may prepare bids for renovation projects; consult with customers, architects, and engineers; employ and supervise subcontractors; and perform carpentry or other trade work.

Primary production managers, such as managers of gas field operations, oversee operations, ensure that production quotas and procedures are met, and confer with other managers to plan extraction sites and procedures. Manufacturing managers, such as paper mill managers, develop and implement plans to efficiently use materials, labour, and equipment to meet production targets, develop production schedules, and maintain inventories of raw materials and finished products. They are also responsible for quality control and equipment maintenance. Transportation managers, such as railway freight managers, oversee the setting of rates, the scheduling and dispatching of goods, and the tracking of goods in transit; monitor revenue; and negotiate with carriers, warehouse operators, and insurance companies.

Requirements

- To become a manager in a goods-producing industry, a Bachelor's degree or diploma in Engineering, Business Administration, Commerce, or other discipline related to the company's product plus several years of experience in a related area are usually required.
- Managers in primary production, such as mining and quarrying, forestry, and oil and gas, are usually required to have a Bachelor's degree in Forestry Science, Forest Engineering, Mining Engineering, Earth Sciences, Geology, or Petroleum Engineering. Several years of experience in a supervisory capacity in the particular industry are usually required and may substitute for formal education requirements.
- To become a paper mill manager you may be required to complete a Bachelor's degree in Engineering or Business Administration plus have several years of supervisory experience in the manufacturing industry.
- Utilities managers may be required to obtain a Bachelor's degree or college diploma in an appropriate discipline plus have several years of experience as a supervisor in a related utilities operations department. Professional engineer certification may be required for some utility managers.
- A university degree in Civil Engineering or a college diploma in Construction Technology along with several years of experience in the construction industry, including experience as a construction supervisor or field superintendent, are usually required to become a construction manager. However, extensive experience in the construction industry may substitute for formal academic requirements. Professional engineering status or construction trade certification may be required by some employers.
- A home renovator should have extensive experience in the home construction industry, including experience as a general supervisor.
- Transportation managers, such as railway freight managers, are required to have completed high school and may be required to have a Bachelor's degree or diploma in Business Administration or Engineering, plus several years of operational or administrative experience related to freight traffic. They may be required to obtain additional training in transportation and logistics through one of several distance education programs.

Training Paths

- Many universities throughout the province offer Bachelor's degree programs in Commerce, Business Administration, Geology, and Earth Sciences. These programs are usually three to four years in length, and admission usually requires completion of high school with a minimum of five Grade 12 academic courses, including English 12 and Mathematics 12 or Pre-calculus Mathematics.
- A Master's degree in Business Administration (MBA) is available as a two- year program at Dalhousie and Saint Mary's universities. To enter, you must have a Bachelor's degree and a satisfactory score on the Graduate Management Admissions Test (GMAT).
- Four- or five-year Bachelor's degrees in Forestry are available at seven universities across Canada; the University of New Brunswick is the closest one to Nova Scotia. Universite de Moncton offers this degree in French at its Edmundston campus. Admission requirements vary for each university; however, general preparation involves high school completion with courses in English, Mathematics, and the sciences. Master's and Ph.D. programs in Forestry are also available at most of these schools.
- An Engineering degree is only available in this province through a five-year Bachelor of Engineering program at Dalhousie University. Dalhousie also offers a cooperative education program which allows students to work for three terms under the supervision of practising engineers. The first two years of an Engineering degree must be completed through the Engineering

diploma program at one of several universities throughout the province. To enter, you must complete high school with high marks in Pre-calculus Mathematics, Physics, and Chemistry. Certification as a professional engineer is granted by the Association of Professional Engineers of Nova Scotia (APENS).

- Dalhousie University offers a 12-month Master of Engineering. This degree is generally taken by graduate engineers in an appropriate field.
- Workers in the construction industry generally acquire their training on the job, although more employers are looking for workers with formal education. Several campuses of the Nova Scotia Community College (NSCC) offer certificate and diploma programs in construction related areas such as carpentry, plumbing and electrical. The Institute of Technology Campus offers a two-year diploma program in Construction Administration Technology. To enter, you must have successfully completed high school, including Grade 12 Mathematics, English, and Physics or equivalent.
- The University of New Brunswick, Fredericton Campus, offers a diploma in Transportation.

Skills and Aptitudes

To work in these fields, you should have good interpersonal skills as well as effective oral and written communication skills. Leadership qualities and the ability to motivate others are important. You should also be able to organize projects, solve problems, and make decisions.

Likely Employers

Managers in goods-producing industries work in many different fields, such as construction and various natural resources sectors.

Other Considerations

Most people in these occupations are employed full-time and for the full year. Over one-third of the people in this occupation are self-employed. Small-scale manufacturing companies which target specialized markets are expected to create jobs as the manufacturing sector in Nova Scotia continues to become more diversified.

Related Occupations

Managers in Facility Operation and Maintenance
Supervisors in Primary Industry

For Further Information

Association of Professional
Engineers of Nova Scotia
1355 Barrington St.
PO Box 129
Halifax, NS B3J 2M4
www.apens.ns.ca

Canadian Association of Supply Chain
and Logistics Management
590 Alden Rd., Suite 211
Markham, ON L3R 8N2
www.infochain.org

Canadian Institute of Forestry–
Nova Scotia Section
14 Court Sq., Suite 2000
PO Box 105
Truro, NS B2N 3H7
www.cip-ifc.org/ns/index.html

Nova Scotia Association
of Quantity Surveyors
PO Box 8774
Halifax, NS B3K 5M4
email: nsaqs@ciqs.org
www.ciqs.org/nsaqs

Nova Scotia Forestry Association
PO Box 1113
Truro, NS B2N 5G9
www.nsfa.ns.ca

Professional Logistics Institute
160 John St., Ste 200
Toronto, ON M5Y 2E5
www.loginstitute.ca

Purchasing Management
Association of Canada
Nova Scotia District
PO Box 955
Halifax, NS B3J 2V9
www.pmac.ca

Managers in Health, Education, Social, and Community Services

Labour Market Conditions

Estimated employment in 2002	2930
Estimated change in employment between 2002 and 2007	STABLE
Estimated average annual number of job openings	70
Estimated rate of unemployment in 2001	SIGNIFICANTLY BELOW AVERAGE
Estimated average annual earnings in 1995	$51,000

Typical Occupations

Chief of Medical Staff
Director of Nursing
Executive Director – Health Services Institution
School Principal
Social Work Director
University or Community College Registrar

Nature of the Work

This group of occupations includes those who plan and direct the programs of social services, the activities of staff of an elementary or secondary school, or the delivery of healthcare services. The group also includes faculty administrators and registrars of colleges or universities and administrators of vocational training schools. Activities of managers of healthcare may include consulting with boards of directors and senior managers to maintain and establish healthcare standards; developing evaluation systems to monitor healthcare quality; and planning and controlling budgets. Activities of managers in social and community services include administering the programs of non-governmental organizations involved with social issues, directing and advising professional and non-professional staff who deliver services and programs, participating in policy development, and hiring and providing training for professional and non-professional staff.

Requirements

- A Bachelor's degree in Business Administration, Hospital Administration, Finance, or other disciplines related to the service provided is usually required along with several years of experience.
- Administrators of departments such as surgery, clinical medicine, or laboratory medicine are usually required to have the education and training of a specialist physician. Other department administrators are usually required to have the education and training of the medical professionals in that department. Certification in the relevant field is required.
- A school principal or administrator is required to have at least a Bachelor's degree in Education, although a Master's degree is preferred, plus several years of experience as senior teacher or department head and a Nova Scotia Teacher's Certificate.
- Managers in social, community, and correctional services are required to have a Master's degree in a social science plus several years' experience in a related occupation.
- Administrators of vocational training schools are usually required to have a Bachelor's degree in Business Administration, a Vocational Training Certificate, and/or expertise in a subject of instruction.

Training Paths

- Many universities throughout the province offer Bachelor's degree programs in Commerce, Business Administration, and the social sciences. Bachelor's degree programs are usually three to four years in length. Admission usually requires high school completion with a minimum of five Grade 12 academic courses including English 12 and Mathematics 12 or Pre-calculus Mathematics for admission.
- Some of these universities also offer more advanced programs. For example, a Master's degree in Business Administration is available as a two-year program at Dalhousie and Saint Mary's universities. Dalhousie University also offers a two-year Master's degree in Public Administration. To enter, you must have a Bachelor's degree and a satisfactory score on the Graduate Management Admissions Test (GMAT).
- The Maritime School of Social Work at Dalhousie University offers both Bachelor's and Master's degree programs in Social Work. You should consult the school for entrance requirements.
- The School of Health Services Administration at Dalhousie University offers a number of programs at the diploma, Bachelor's, and Master's degree levels. You should contact the school for information on programs and admission requirements.
- The Bachelor of Education program is offered at Université Sainte Anne (French instruction only) and Acadia, Mount Saint Vincent, and St. Francis Xavier universities. These programs are two years in length and require a recognized Bachelor's degree with a minimum B- average for entrance. Acadia University also offers a degree at the Master's level in Educational Leadership.

Skills and Aptitudes

To work in these fields, you need determination, confidence, and good managerial skills. You must have the ability to organize, negotiate, motivate, and communicate. You must be able to work well under pressure and make difficult decisions quickly. Good judgement and leadership skills are essential. You should also be capable of cooperating and collaborating with others.

Likely Employers

About half of the individuals in these occupations work in the field of education, but employment can be also be found with hospitals or health and social service organizations.

Other Considerations

Most of the workers in these occupations work full-time and for the full year.

Related Occupations

College and Other Vocational Instructors
Managers in Public Administration
Policy and Program Officers
University Professors

For Further Information

Nova Scotia Association
of Social Workers
1891 Brunswick St., Suite 106
Halifax, NS B3J 2G8
email: nsasw@fox.nstn.ca
www.nsasw.org

Nova Scotia Department
of Education
Teacher Certification
PO Box 578 Halifax, NS B3J 2S9
www.ednet.ns.ca

Managers in Public Administration

Labour Market Conditions

- **Estimated employment in 2002 ....1180**
- **Estimated change in employment between 2002 and 2007.............GROWING**
- **Estimated average annual number of job openings..............................40**
- **Estimated rate of unemployment in 2001 ...........SIGNIFICANTLY BELOW AVERAGE**
- **Estimated average annual earnings in 1995................................$56,000**

Typical Occupations

Curriculum Development Director
Economic Policy Analysis Director
Health Information and
Promotion Director
Intergovernmental Affairs Director
Social Services Director

Nature of the Work

Managers in this group of occupations plan, organize, and direct the development of policies regarding healthcare, economics, education, and the operations of legislatures and other activities unique to government. Activities include participating in the development of policy by providing advice to senior government managers, and establishing procedures to meet objectives set by senior management. Activities also include directing and advising staff who conduct research, prepare documents, and administer programs; and organizing and directing committees and working groups to plan, manage, or evaluate projects and programs.

Requirements

- Generally, to work as a manager in the field of public administration, you would be required to have a Bachelor's degree or diploma in Public Administration, Public Management, Law, Business Administration, Commerce, Economics, or a related area of business. A Master's degree in a related field is preferred, if not required. Several years of experience must also be demonstiated in a managerial or supervisory capacity in the public or private sector.
- Government managers in health policy development and program administration would need to have at least a Bachelor's degree, preferably, or a diploma in Health Science, Hospital Administration, Public Administration, or the social sciences, plus several years of experience as a health or social policy researcher, consultant, or program officer. Again, a Master's degree in a related area is preferred, if not required. Some government managers in this field may be required to obtain certification in the relevant health profession.
- Government managers in education curriculum development would be required to have at least a Bachelor's degree, preferably in Education, although a Master's degree in a specialized field may be required. Experience as a school teacher and as a government education policy researcher, consultant, or program officer is preferred, and in some cases required. A provincial teaching certificate may be desirable.

Training Paths

- Many universities throughout the province offer Bachelor's degree programs in Commerce, Economics, Business Administration, and the social sciences. Bachelor's degree programs are usually three to four years in length. Admission usually requires a minimum of high school completion with at least five Grade 12 academic courses including English 12 and Mathematics 12 or Pre-calculus Mathematics.
- A Master's degree in Business Administration is available as a two-year program at Dalhousie and Saint Mary's universities. A Master's of Business Administration in Community Economic Development is available through the University College of Cape Breton (UCCB). To be admitted, you must have a Bachelor's degree and a satisfactory score on the Graduate Management Admissions Test (GMAT). Dalhousie University offers a two-year Master's degree in Public Administration. You must have a Bachelor's degree to enter.
- The School of Health Services Administration at Dalhousie University offers a number of programs at the diploma, Bachelor's, and Master's degree levels. You should contact the school for information on programs and admission requirements.
- The Bachelor of Education program is offered at Universite Sainte Anne (French instruction only) and at Acadia, Mount Saint Vincent and St. Francis Xavier universities. This program is two years in length and requires a recognized Bachelor's degree with a minimum B- average for entrance. Acadia University also offers a degree at the Master's level in Educational Leadership.
- You may also want to check into the various certificate and diploma programs offered through the Continuing Education departments of the various universities throughout the province. For example, Dalhousie's Henson College offers certificate programs in Business Management and Local Government Administration.

Skills and Aptitudes

For these occupations, you need excellent organizational, problem-solving, and decision-making skills. You should be capable of analytical and logical thought. Strong interpersonal and communication skills are important.

Likely Employers

Most managers in this field are employed in public administration at the federal, provincial, or municipal level.

Other Considerations

Most people in these occupations are employed full-time and for the full year.

Related Occupations:

Managers in Financial, Communications, and Other Business Services
Managers in Health, Education, Social, and Community Services
Policy and Program Officers

For Further Information

Canadian Healthcare Association
17 York St.
Ottawa, ON K1N 9J6
www.canadian-healthcare.org

Institute of Public
Administration of Canada
1075 Bay St., Suite 401
Toronto, ON M5S 2B1
www.ipaciapc.ca

Nova Scotia Department of Education
Teacher Certification
PO Box 578 Halifax, NS B3J 2S9
www.ednet.ns.ca

Labour Market Conditions

Estimated employment in 2002	18,430
Estimated change in employment between 2002 and 2007	GROWING
Estimated average annual number of job openings	740
Estimated rate of unemployment in 2001	SIGNIFICANTLY BELOW AVERAGE
Estimated average annual earnings in 1995	$31,000

Managers in Retail Trade, Tourism, and Other Service Industries

Typical Occupations

Bed and Breakfast Operator
Cooking School Manager
Department Store Manager
Hairdressing Salon Manager
Hotel Manager
Restaurant Manager
Supermarket Manager

Nature of the Work

This group of occupations includes managers who plan and direct activities and operations of a wide variety of service-based organizations. Activities may include planning the operations of retail sales establishments, setting staff work schedules for a restaurant or bar, or negotiating with clients for the use of facilities for conventions and banquets.

Requirements

- Retail trade managers are required to have completed high school and may be required to have a Bachelor's degree or diploma in Business Administration or other field related to the product or service being sold. Several years of experience in retail sales with high levels of responsibility are often required.
- Completion of a program related to hospitality or food and beverage management plus several years of experience in the food service sector, including supervisory experience, are usually required to work in the field of restaurant and food service management.
- If you plan to operate your own business, training in managing a small business would be beneficial.

Training Paths

- Mount Saint Vincent University offers a four-year Bachelor of Tourism and Hospitality Management degree with a compulsory cooperative education feature. To enter, you must complete high school with an average of at least 85%. The University College of Cape Breton (UCCB) offers a three-year Hospitality Administration work/study diploma program. Several campuses of the Nova Scotia Community College (NSCC) offer one-year programs in Tourism and Hospitality (with concentrations in food and beverage service, hospitality operations and ecotourism). The Akerley, Burridge and Lunenburg campuses offer a two-year Tourism and Hospitality Management diploma program. The admission requirement for these programs is a high school diploma.
- Bachelor's degree programs in Commerce and Business Administration are available at most universities in the province. Admission to these programs usually requires high school completion with at least five Grade 12 academic courses including English 12 and Mathematics 12.
- Some universities and colleges also offer diploma and certificate programs in various areas of business. Most campuses of the Nova Scotia Community College (NSCC) offer the first year of a two-year program in Business Administration, with second-year concentrations in different specialties such as Accounting, Management, Marketing and Information Management. The second year of the program is not offered at all campuses. The entrance requirement to this program is a high school diploma. You should consult the NSCC academic calendar for details of the various business programs they offer.
- Programs in Travel and Tourism and Business are also available through private career colleges. Please contact the Private Career Colleges Section, Nova Scotia Department of Education, for information on registered private career colleges and the programs offered.

Skills and Aptitudes

To work in these occupations, you need good organizational and managerial skills. An ability to work under pressure is important. You must be decisive. You need to work well with others. Effective communication skills, both written and oral, are also important.

Likely Employers

The majority of managers in this field work in retail trade establishments. Large numbers are employed in the food and beverage sector.

Other Considerations

The majority work full-time and for the full year. Although many employees in service industries work on a seasonal basis, mainly in the summer months, there are no significant seasonal patterns of unemployment in this particular occupation. Over one-third of people in this occupation are self-employed.

Related Occupations

Managers in Facility Operation and Maintenance
Managers in Financial, Communications, and Other Business Services
Managers in Sales, Marketing, and Advertising
Sales and Service Supervisors

For Further Information

Nova Scotia Department of Education
Private Career Colleges
PO Box 578
Halifax, NS B3J 2S9
pcc.ednet.ns.ca

Retail Council of Canada
121 Bloor St. East, Suite 1210
Toronto, ON M4W 3M5
www.retailcouncil.org

Tourism Industry Association of Nova Scotia
1099 Marginal Rd., Suite 201
Halifax, NS B3H 4P7
www.tians.org

Tourism Human Resource Council
www.tourismhrc.com

Managers in Sales, Marketing, and Advertising

Labour Market Conditions

Estimated employment in 2002	3140
Estimated change in employment between 2002 and 2007	STABLE
Estimated average annual number of job openings	60
Estimated rate of unemployment in 2001	BELOW AVERAGE
Estimated average annual earnings in 1995	$46,000

Typical Occupations

Advertising Executive
Fundraising Campaign Manager
Promotions Manager
Public Relations Manager
Regional Sales Manager

Nature of the Work

This group of occupations involves managerial and administrative work in sales and advertising for a wide range of organizations, including large retail stores, charities, political parties, and others. Sales managers plan and direct the activities of sales departments in commercial, industrial, wholesale, and other establishments. Marketing managers direct marketing strategies and establish distribution networks. Advertising executives and promotions managers plan and direct activities that promote the sales of products and services, while public relations managers direct departments that develop communication plans. Workers in this group often work long hours and may be required to work evenings and weekends.

Requirements

- Sales and marketing managers are required to have a Bachelor's degree or diploma in Business Administration or in a related field with a specialization in Sales or Marketing. They may also be required to have several years' experience as sales or marketing representatives or experience in a related occupation.
- Advertising and public relations managers are required to obtain a Bachelor's degree or diploma in Public Relations, Communications, Marketing, Journalism, or a related field, and several years of experience as an advertising officer, public relations officer, or communications officer.

Training Paths

- Many universities and colleges throughout the province offer Bachelor's degree and diploma programs in Business Administration, Commerce, and related areas of business with specializations in Marketing. Admission to degree programs usually requires high school completion with a minimum of five Grade 12 academic courses, including English 12 and Mathematics 12 or Pre-calculus Mathematics.
- Most campuses of the Nova Scotia Community College (NSCC) offer the first year of a two-year program in Business Administration, with second-year concentrations in different specialties such as Management and Marketing. The second year of the program is not offered at all campuses. The entrance requirement to these programs is a high school diploma. You should consult the NSCC academic calendar for details of the various business programs they offer.
- Mount Saint Vincent University offers a four-year Bachelor's degree in Public Relations with a cooperative education option. You require a strong academic performance in high school with Grade 12 French or equivalent, English 12, and Mathematics 12.
- The University of King's College offers a four-year Bachelor of Journalism (Honours) degree program for students entering after Grade 12 and a one-year Bachelor of Journalism degree program for those with a previous Bachelor's degree.
- A three- or four-year Bachelor of Arts degree with a major in English is available at most universities throughout the province. Admission to these programs usually requires high school completion with five academic Grade 12 courses, including English 12.
- The Department of Communications at the University College of Cape Breton (UCCB) offers three- and four-year Bachelor of Arts programs in Communications. Please contact the university for admission requirements.

Skills and Aptitudes

For these occupations, you need excellent communication, interpersonal, and negotiating skills, along with confidence and initiative. Common sense and mathematical skills are important. You must be willing to accept new ideas, take risks, and make careful decisions. The ability to analyze detailed information accurately and quickly is also necessary. Knowledge of your product or service and its markets is essential. Familiarity with computers would be helpful.

Likely Employers

The majority of sales, marketing, and advertising managers work in wholesale trade, while others are employed in the business services industry.

Other Considerations

Traditionally, most people in these occupations have been full-time and full-year workers. Unlike sales positions, earnings in these management occupations are often in the form of a salary. Also, these positions generally vary less with changing economic conditions than do other sales positions.

Related Occupations

Managers in Retail Trade, Tourism, and Other Service Industries
Occupations in Public Relations and Communications
Sales Representatives, Wholesale Trade

For Further Information

Canadian Public Relations Society
4195 Dundas St., West, Suite 340
Toronto, ON M8X 1Y4
www.cprs.ca

Natural and Applied Sciences and Related Occupations

Agricultural Representatives, Consultants, and Specialists

Labour Market Conditions

Estimated employment in 2002	120
Estimated change in employment between 2002 and 2007	GROWING
Estimated average annual number of job openings	5
Estimated rate of unemployment in 2001	AVERAGE
Estimated average annual earnings in 1995	$43,000

Typical Occupations

Agricultural Consultant
Agrologist
Crop or Livestock Specialist
Farm Management Specialist
Horticulturist

Nature of the Work

People working in these occupations provide assistance and advice to farmers on all aspects of farm management, cultivation, fertilization, harvesting, soil erosion, soil composition, disease prevention, nutrition, crop rotation, and marketing. Their activities may include conducting research; analyzing agricultural data and preparing research reports; meeting with researchers, educators, government, or business managers on matters relating to farming and agriculture; and maintaining records of services provided and the effects of advice given. Agrologists study farm crops and animals, and develop ways of improving their quantity and quality. Agronomists research ways to improve crop yield and quality with less labour, and to control pests and weeds more safely and effectively. They also research methods of converting raw agricultural commodities into attractive and healthy food products for consumers.

Requirements

- A Bachelor's degree is required to work in these occupations. This is adequate for many sales, production management, inspection, and other non-research jobs. However, many agrologists and agricultural specialists have their Master's or Ph.D. degrees, as positions in research and management generally require more education. Degrees in related sciences such as Biology or Chemistry or in related engineering specialties also may qualify persons for some jobs in the agricultural science area.
- The Agrologists Act of Nova Scotia requires all persons practising agrology in the province to be registered with the Nova Scotia Institute of Agrologists. To receive the designation of Professional Agrologist, you are required to have either a Bachelor of Science degree in Agriculture or a Bachelor's degree with some experience in agriculture.

Training Paths

- The Nova Scotia Agricultural College offers a four-year Bachelor of Science degree in Agriculture. This program has specializations in AgBiotechnology, Agricultural Business, Agricultural Chemistry, Agricultural Economics, Agricultural Environmental Studies, Agricultural Mechanization, Animal Science, Aquaculture, Pest Management, and Plant Science. Admission requires high school graduation with a minimum 60% average and completion of five Grade 12 academic courses, including English, Chemistry, Mathematics, and either Biology or Physics.

Skills and Aptitudes

To work in this field, you should enjoy diverse working conditions. Good observation skills and analytical abilities are also important. You must communicate and cooperate well with others, as agrologists often work in teams. A farming background is helpful but not necessary.

Likely Employers

The majority of people in these occupations are employed in the agriculture sector or by federal or provincial government departments.

Other Considerations

Most people in these occupations are employed full-time and for the full year. Unlike other agricultural occupations, there are no significant seasonal patterns of unemployment.

Related Occupations

Biologists and Related Scientists
Life Sciences Technicians and Technologists
Other Professional Engineers

For Further Information

Agricultural Institute of Canada
141 Laurier Avenue West, Suite 1112
Ottawa, ON K1P 5J3
email: info@aic.ca
www.aic.ca

Nova Scotia Institute
of Agrologists
Registrar
P.O. Box 550
Truro, NS B2N 5E3
Phone: (902) 893-6520
www.gov.ns.ca/nsaf/nsia

Air Pilots, Flight Engineers, and Flying Instructors

Labour Market Conditions

Estimated employment in 2002	270
Estimated change in employment between 2002 and 2007	GROWING
Estimated average annual number of job openings	10
Estimated rate of unemployment in 2001	ABOVE AVERAGE
Estimated average annual earnings in 1995	$51,000

Typical Occupations

Airline Pilot
Flight Engineer
Helicopter Pilot
Military Pilot
Pilot Instructor

Nature of the Work

Pilots fly fixed-wing aircraft and helicopters to provide air transportation of passengers and cargo, and other services such as search and rescue, aerial surveying, or spraying and crop dusting. They may also direct activities of aircraft crew during flight, and test new aircraft to evaluate performance. Flight engineers monitor the functioning of aircraft during flight and may assist in flying aircraft. Flying instructors teach flying techniques and procedures to students and licensed pilots. People in these occupations usually work irregular hours including evenings, weekends, and holidays.

Requirements

- In order to fly for hire or reward, a pilot must hold either a Commercial Pilot Licence or an Airline Transport Pilot Licence, and be eighteen or twenty-one years of age respectively. Commercially employed pilots must qualify for a Category I aviation medical certification with the completion of annual or semi-annual examinations, depending on age. Vision must be correctable to 20/20.
- A fixed-wing Commercial Pilot Licence is attained by completing the ground and flight training courses, written exams, and a flight test, and accumulating a total of 200 hours of flight time. A night rating is an integral part of the fixed-wing commercial license. Employment opportunities are improved for fixed-wing pilots who hold a multi-engine and instrument rating in addition to the commercial licence.
- The rotary-wing (helicopter) Commercial Pilot Licence requires that you complete 100 hours of flight time.
- Most airline companies require an aircraft captain to hold the Airline Transport Pilot Licence, which requires a minimum of 1500 hours flight time and completion of the required written exams and flight test.
- Additional ratings may be added to both fixed-wing and rotary-wing licences in order to satisfy specific employment requirements; these include aircraft type ratings such as Dash 8, Airbus 320, Bell 212, instructor ratings, and seaplane rating. Commercially employed pilots must also obtain training and pass aircraft proficiency flight tests on a regular basis. These sessions may be done in an aircraft simulator or in an actual aircraft.

Training Paths

- A two-year diploma program in Aviation Technology–Pilot is offered through the Akerley Campus of Nova Scotia Community College (NSCC). Upon graduation students will have a commercial licence, a multi-engine rating, an instrument rating, and 1500 hours of academic instruction. Admission to the program requires high school graduation with Grade 12 English and Mathematics and Grade 11 Physics. Applicants must also successfully complete a Transport Canada medical and an entrance interview. Please note that this program is not offered at regular NSCC tuition rates. Contact the NSCC for tuition information.
- You may receive your Commercial Pilot Licence through training at private flying clubs or schools in Nova Scotia.
- The Canadian Forces also has a seven-month pilot training program. You must meet Canadian Forces medical standards and be selected for this occupation. Training requires proficiency in mathematics and physics. Several years' experience will be required after completing the program. Contact the Canadian Forces for more information.

Skills and Aptitudes

To work in these fields, you should have self-confidence and a strong sense of responsibility, and be a disciplined person able to work as part of the team on board the aircraft. Leadership qualities, initiative, and good communication skills are essential. You must be alert, quick-thinking, and able to perform under stress. Excellent coordination, agility, and physical and mental health are necessary. A mechanical aptitude is also important. High school students interested in flying can gain valuable experience by joining the Air Cadets in their area or by joining their local flying club.

Likely Employers

Most of the people employed in this field work in the air transportation industry.

Other Considerations

Most people in these occupations are employed full-time and for the full year, although helicopter operators are primarily restricted to the summer months. Employment levels are influenced by the amount of tourism activity and business travel, which both tend to vary with general economic conditions. Earnings will depend on the specific occupation, qualifications, and employer. Pilots who fly large jet aircraft generally earn the highest incomes, while those flying small aircraft on short domestic routes earn the least.

Related Occupations

Air Traffic Control Occupations
Canadian Forces Occupations

For Further Information

Air Transport Association of Canada
255 Albert St., Suite 1100
Ottawa, ON K1P 6A9
Phone: (613) 233-7727
www.atac.ca

Canadian Forces
Recruiting Centre
5251 Duke St., Suite 502
Halifax, NS B3J 1N9
Phone: 1-800-856-8488
www.recruiting.dnd.ca

Air Traffic Control Occupations

Labour Market Conditions

Estimated employment in 2002	60
Estimated change in employment between 2002 and 2007	STABLE
Estimated average annual number of job openings	5
Estimated rate of unemployment in 2001	BELOW AVERAGE
Estimated average annual earnings in 1995	$42,000

Typical Occupations

Air Traffic Controller
(En Route/Terminal and Airport)
Flight Dispatcher
Flight Service Specialist

Nature of the Work

An air traffic controller is often described as one who provides for the safe, orderly, and expeditious flow of air traffic both in the air and on the ground. This definition may sound simple, but the job is highly complicated and exacting. A controller's work is divided into two specializations: en route and airport. Air traffic controllers at area control centres give pilots instructions, air traffic control clearances, and advice regarding flight conditions during the en route portion of their flight. Terminal controllers work in an environment similar to that of en route controllers, but are closely associated with the tower they serve. Airport controllers direct airport traffic so it flows smoothly and efficiently. They give pilots taxi and takeoff instructions, air traffic clearances, and advice based on their own observations and information received from Environment Canada, en route centres, flight services stations, pilots, and other sources.

A flight service specialist assists pilots both before and during flight. In addition to providing information to assist pilots to execute safe and expeditious departures and arrivals at uncontrolled airports, the flight service specialist supports pilots throughout the flight by providing pre-flight weather briefings, flight planning, an en route flight information service, and search and rescue assistance. This rewarding job requires good judgement, constant vigilance, and the ability to communicate effectively. A flight dispatcher may analyze environmental conditions and assess aircraft for load and fuel capacity and other factors to determine flight routes, brief flight crew on conditions, authorize or cancel flights, and monitor progress and communicate as required during flight.

Requirements

- An applicant must have successfully completed high school or equivalent and must be at least 18 years of age (for air traffic controller only).
- All air traffic controller and flight service specialist operational positions have an English-essential requirement. Some flight service specialist positions in the Atlantic Region, some air traffic controller positions in the Ontario Region, and all positions in the Quebec Region are bilingual.
- Flight dispatchers must possess accreditation certification in meteorology and flight operations as prescribed by the Canadian Air Regulations.

Training Paths

Training to become an air traffic controller or flight service specialist is provided by NAV CANADA at their training institute in Cornwall, Ontario. The air traffic controller training program, approximately six months in length, consists of theory and simulation. After successful completion of the basic course at the training institute, candidates will normally return to their region for continued on-the-job training. The flight service specialist training program consists of both theory and simulation, and is approximately eight months in length. After successful completion of the basic course, candidates will then be posted to a location within their region to begin on-the-job training.

Skills and Aptitudes

For these occupations, you need good health and eyesight. The candidates who succeed in training are self-confident and mature team players who are highly motivated, decisive, and self-disciplined.

Likely Employers

The majority of air traffic controllers work in the air transportation industry; others are employed by the federal government, mainly with the Department of National Defence.

Other Considerations

Most people in these occupations are employed full-time and for the full year.

Related Occupations

Railway and Marine Traffic Controllers

For Further Information

NAV CANADA
PO Box 3411, Station D
Ottawa, ON K1P 5L6
www.navcanada.ca

NAV CANADA Training Institute
1950 Montreal Rd.
PO Box 5400
Cornwall, ON K6H 6L2

Architects and Landscape Architects

Labour Market Conditions

- **Estimated employment in 2002.........160**
- **Estimated change in employment between 2002 and 2007.............GROWING**
- **Estimated average annual number of job openings..............................10**
- **Estimated rate of unemployment in 2001 ...........SIGNIFICANTLY BELOW AVERAGE**
- **Estimated average annual earnings in 1995.................................$52,000**

Nature of the Work

Architects plan and develop designs for construction and renovation of commercial, institutional, and residential buildings, often specializing in one of these areas. Activities may include consulting with clients to determine type, style, and purpose of renovations or new buildings being considered; preparing sketches and models for clients; conducting environmental design studies, including environmental assessments; arranging contracts; and supervising construction. Therefore, the duties of an architect require a number of skills: design, engineering, managerial, communication, and supervisory.

Landscape architects focus on the creative and rational planning and design of land to enhance surroundings and to balance the needs of society with the capabilities of the outdoor environment. The landscape architect services clients directly or in collaboration with other professional disciplines.

Requirements

- To practise as a professional architect in Nova Scotia, you must be registered with the Nova Scotia Association of Architects and have three years of relevant work experience. Student memberships in the Nova Scotia Association of Architects are available. Direct experience may be gained under the supervision of a professional architect. During this time you must prepare diaries or a record of experiences that will be assessed by the Association, and eventually you must pass the Architectural Registration Exam. This exam may be written after gaining at least 18 months of direct architectural work experience.
- To practice as a certified landscape architect, you must obtain certification from the Atlantic Provinces Association of Landscaping Architects.

Training Paths

- Dalhousie University offers a four-year Bachelor of Environmental Design Studies/Master of Architecture program to students who have already completed at least two years of university studies. It includes eight academic terms, plus three co-op work terms in which students acquire professional experience in an architectural office in Canada or abroad. This professional architecture program is fully accredited by the Canadian Architectural Certification Board.
- Another way to train for this profession requires that you work with architects for a period of eight to ten years and complete fifteen to thirty hours of study weekly through correspondence courses offered through the Royal Architectural Institute of Canada (RAIC). You should consult the RAIC syllabus for more information on courses offered. This is not the usual way to prepare for this work in Nova Scotia; however, it is done in areas where access to architectural schools is limited.
- Programs in landscape architecture are not available in Nova Scotia. Graduate or Bachelor's programs are available at the University of Guelph, University of Toronto, University of Montreal, University of Manitoba, and University of British Columbia. You should contact these institutions for program and admissions information.

Skills and Aptitudes

Architectural studies require an understanding of individual and social needs, and a knowledge of humanities, fine arts, and technology. Well-rounded personal and academic experience is helpful, as well as experience in drawing, craft, and computer applications. Architecture students often benefit from previous classes in fields such as anthropology, art history, engineering, literature, mathematics, music, philosophy, and physics.

Likely Employers

Most architects are employed with private firms that provide architectural services to individuals, companies, and government agencies, while others work directly for corporations and government agencies.

Other Considerations

The majority of workers in these occupations work full-time and for the full year. Nearly half of the people in this occupation are self-employed. Employment levels in these occupations are cyclical as construction activity changes along with economic conditions. Evening and weekend work may be required in order to meet deadlines.

Related Occupations

Civil Engineers
Other Professional Engineers
Professional Land Surveyors
Urban and Land Use Planners

For Further Information

Atlantic Provinces Association
of Landscape Architects
PO Box 3415, Stn Park Lane Centre
Halifax, NS B3J 3J1
www.apala.net

Canadian Society of Landscape Architects
PO Box 13594
Ottawa, ON K2K 1X6
email: franpauze@csla.ca
www.csla.ca

Dalhousie University
Faculty of Architecture
PO Box 1000
Halifax, NS B3J 2X4
Phone: (902) 494-3971
www.dal.ca/architecture

Nova Scotia Association of Architects
1361 Barrington St.
Halifax, NS B3J 1Y9
www.nsaa.ns.ca

Architectural Technicians and Technologists

Labour Market Conditions

- Estimated employment in 2002 60
- Estimated change in employment between 2002 and 2007 ....GROWING RAPIDLY
- Estimated average annual number of job openings 5
- Estimated rate of unemployment in 2001 ..........SIGNIFICANTLY BELOW AVERAGE
- Estimated average annual earnings in 1995................................$27,000

Typical Occupations

Architectural Design Technician
Architectural Design Technologist
Building Technician
Building Technologist

Nature of the Work

Architectural or building technologists and technicians provide technical assistance to professional architects and civil design engineers. They conduct research, prepare drawings and architectural models, prepare specifications and contracts, and prepare contract and bidding documents. Other specific duties may include supervising construction projects, and coordinating, monitoring, and inspecting work done by others.

Requirements

For this type of work, you generally need an Architectural Technician or Technology diploma from a recognized school. Certification is not mandatory at this time but more employers are requiring it. Two years of work experience may be required before you are eligible for certification.

Training Paths

- A two-year diploma program, Architectural Engineering Technician, is offered at the Institute of Technology of the Nova Scotia Community College (NSCC). Completion of high school is required for entry to this program, with preference given to applicants with English 12, Mathematics 12, and Physics 12.
- The Institute of Technology, Lunenburg and Marconi campuses of the NSCC offer two-year diploma programs in Architectural Drafting. The admission requirement to this program is a high school diploma, with preference given to applicants who have academic Mathematics 12 and Physics 12.
- Ryerson Polytechnical Institute in Toronto offers a four-year Bachelor of Technology (Architectural Science) degree program. The program emphasizes the study of architectural theory, technology and management. To apply, you must successfully complete high school with courses in English, Physics, and Pre-calculus Mathematics.

Skills and Aptitudes

For these occupations, you should be interested in architecture and design. You should enjoy detailed and precise work. A good imagination and creativity would be helpful. Good communication skills, both written and oral, are important. Computer skills would also be helpful.

Likely Employers

Of the limited number of individuals employed in this field within Nova Scotia, many work with professional or other service-related companies.

Other Considerations

The majority of workers in these occupations are full-time workers who are employed for the full year. Although there are no significant seasonal patterns of unemployment throughout the year, employment levels may vary from year to year as economic conditions change and the amount of construction activity is affected. Over one-third of the people in this occupation are self-employed.

Related Occupations

Mapping and Related Technicians and Technologists
Technical Occupations in Civil, Mechanical, and Industrial Engineering

For Further Information

Association of Architectural Technologists of Ontario
1515 Matheson Blvd. East
Mississauga, ON L4W 2P5
www.aato.on.ca

Canadian Council of Technicians and Technologists
285 McLeod St.
Ottawa, ON K2P 1A1
www.cctt.ca

Society of Certified Engineering Technicians and Technologists of Nova Scotia
PO Box 159, DMPS
Dartmouth, NS B2Y 2Y3
www.scettns.ns.ca

Labour Market Conditions

- **Estimated employment in 2002** 330
- **Estimated change in employment between 2002 and 2007** .... GROWING
- **Estimated average annual number of job openings** 10
- **Estimated rate of unemployment in 2001** .... BELOW AVERAGE
- **Estimated average annual earnings in 1995** $50,000

Biologists and Related Scientists

Typical Occupations

Biochemist
Botanist
Cell Biologist
Ecologist
Geneticist
Marine Biologist
Molecular Biologist
Zoologist

Nature of the Work

Biologists conduct basic and applied research to increase our understanding of living organisms, to manage natural resources, and to develop new practices and products related to medicine and agriculture.

Biochemists study the chemical composition of living things. Molecular biologists study life at the molecular level, which is the foundation for biotechnology. Botanists study plants and their environment. Zoologists study animals – their origin, behaviour, diseases, and life processes. Marine biologists study plants and animals living in water, specifically saltwater organisms. Ecologists study the relationships among organisms and between organisms and their environments, and the effects of influences such as population size, pollutants, rainfall, temperature, and altitude. People in these occupations generally work regular hours in offices and laboratories, although some conduct fieldwork and on-site studies.

Requirements

- A minimum of a Master's degree in Biology or a related field is generally required for these positions. To apply for a Master's degree program, you will usually require successful completion of a four-year honours Bachelor's degree program or an acceptable equivalent.
- A Ph.D. is generally required for biological scientists to teach at colleges or universities or to conduct independent research. Admission to a Ph.D. program usually requires an honours Bachelor's degree with a minimum A- standing and completion of a two-year Master's degree with high academic standing. Applicants must have demonstrated an ability to perform advanced research.

Training Paths

- Most universities in the province offer three- and four-year Bachelor of Science programs with a major in Biology. To enter these programs you usually require completion of high school with a minimum of five Grade 12 academic courses, including Pre-calculus Mathematics, English, and at least two science courses.
- Dalhousie University also offers four-year programs in Biochemistry, Marine Biology, Microbiology, and Oceanography.
- The Nova Scotia Agricultural College offers a four-year Bachelor of Science degree with various specializations in Agriculture.
- You may complete a two-year Master's degree in Science with a major in Biology or related areas at Acadia, Dalhousie, or St. Francis Xavier universities.
- Dalhousie also offers a two- or three-year Master's degree in Environmental Studies, a two-year Ph.D. degree in Biology, and post-doctoral training in Clinical Chemistry. Dalhousie University offers Master's and Ph.D. degrees in Anatomy.

Skills and Aptitudes

To work in this field, you must be comfortable working with instruments, apparatus, and chemicals. You should be observant of details, enjoy research, and have good judgement for scientific and administrative decision-making. The ability to communicate and cooperate with others is important, as scientists often work in teams. Basic computer and mathematical skills are necessary. You must have physical stamina to do field research in remote areas.

Likely Employers

The majority of biologists are employed in federal/provincial government agencies while others work in education facilities or with professional service companies, such as environmental consulting firms.

Other Considerations

The majority of workers in these occupations work full-time and for the full year. Diversification of the Nova Scotia economy may provide some job opportunities for biologists with skills appropriate for use in the pharmaceutical and health sciences industries.

Related Occupations

Agricultural Representatives, Consultants, and Specialists
Foresters
Life Sciences Technicians and Technologists

For Further Information

Canadian Botanical Association
c/o Department of Botany
University of Guelph
Guelph, ON N1G 2W1
www.uoguelph.ca/botany/cba

Canadian Federation
of Biological Societies
1750 Courtwood Cres., Suite 104
Ottawa, ON K2C 2B5
www.cfbs.org

Canadian Institutes of Health Research
41D Laurier Ave. West
9th Floor 4209A
Ottawa, ON K1A 0W9
www.cihr.ca

Canadian Society for Biochemistry,
Molecular and Cellular Biology
c/o Department of Biochemistry,
Dr. David Litchfield
University of Western Ontario
London, ON N6A 5C1
www.csbmcb.ca

Canadian Society of Animal Science
141 Laurier Ave. West, Suite 112
Ottawa, ON K1P 5J3
www.csbmcb.ca

Canadian Society
of Environmental Biologists
PO Box 962, Station F
Toronto, ON M4Y 2N9
www.freenet.edmonton.ab.ca/cseb

Chemical Engineers

Labour Market Conditions

- **Estimated employment in 2002..........120**
- **Estimated change in employment between 2002 and 2007....GROWING RAPIDLY**
- **Estimated average annual number of job openings..............................10**
- **Estimated rate of unemployment in 2001 ...........SIGNIFICANTLY BELOW AVERAGE**
- **Estimated average annual earnings in 1995.................................$64,000**

Typical Occupations

Biochemical Engineer
Environmental Chemical Engineer
Industrial Waste Treatment Engineer
Liquid Fuels Engineer
Petrochemical Engineer
Refinery Engineer

Nature of the Work

Chemical engineers apply the principles of chemistry and engineering to solve problems involving the production or use of chemicals. They research, design, and develop chemical processes and equipment, and supervise the operation and maintenance of industrial, chemical, plastics, pharmaceutical, resource, pulp, and food processing plants. They also perform duties related to chemical quality control and environmental protection. They may specialize in the products and processes of a particular industry, such as pulp and paper manufacturing, petroleum refining, and energy processing, or in broader areas such as process control or pollution control.

Chemical engineers are often leaders in the areas of engineering safety and environmental assessments. Whether involved in chemical process engineering design or chemical process plant operations, the chemical engineer is expected to protect the public and the environment by ensuring that the processes can and do operate in a safe and reliable manner.

Requirements

- With the exception of engineers employed by the Canadian Forces, professional chemical engineers must be registered with the Association of Professional Engineers of Nova Scotia (APENS) and have four years of relevant work experience to practise in Nova Scotia.
- An Engineering degree from an accredited university is required. Experience is gained by becoming involved in a mentorship program where a professional engineer supervises a trainee's work. During this time the trainee must prepare diaries that will be assessed by APENS, and eventually must pass a professional practice exam regarding engineering ethics, law, and legislation. This exam may be written after gaining at least two years of direct engineering experience.

Training Paths

- To prepare for an engineering program, you must complete high school with high marks in a minimum of five Grade 12 courses, including Pre-calculus Mathematics, Physics, and Chemistry.
- An Engineering degree is only available in this province through a five-year Bachelor of Engineering program at Dalhousie University. Dalhousie also offers a cooperative education option for those who choose to pursue this avenue. The first two years of an Engineering degree must be completed through the Engineering diploma program at Acadia, Dalhousie, Saint Mary's, or St. Francis Xavier universities, University of Prince Edward Island, Nova Scotia Agricultural College, or University College of Cape Breton (UCCB). The final three years of the Bachelor in Engineering degree are completed at Dalhousie. To work in this field, you need a Bachelor of Engineering degree in Chemical Engineering. This degree would cover areas such as plastics and polymers, pulp and paper, petrochemicals, petroleum, and natural gas processing.

Skills and Aptitudes

You should be interested in the use and application of chemicals in process industries. Good observation skills and the ability to think analytically and logically are important. You should be patient and curious, and enjoy problem-solving and carrying out experiments. The ability to communicate and cooperate with others is necessary, as engineers often work in teams. Computer skills are also very helpful.

Likely Employers

Chemical engineers are employed in a variety of different sectors, with the most frequent employers often being firms providing professional services, pulp and paper companies, and the federal government.

Other Considerations

The majority of workers in these occupations work full-time and for the full year. Workers should be prepared to keep up to date with changing technology. Some engineers work in an office most of the time, while others work in laboratories, industrial plants, or construction sites where they inspect, supervise, and solve on-site problems.

Related Occupations

Chemists
Other Professional Engineers
Physical Sciences Technicians
and Technologists

For Further Information

Association of Consulting
Engineers of Canada
130 Albert St., Suite 616
Ottawa, ON K1P 5G4
www.acec.ca

Association of Professional
Engineers of Nova Scotia
1355 Barrington St.
PO Box 129
Halifax, NS B3J 2M4
www.apens.ns.ca

Canadian Society for Chemical
Engineering
130 Slater St., Suite 550
Ottawa, ON K1P 6E2
email: gwilbee@cheminst.ca
www.cheminst.ca/careers

Chemical Institute of Canada –
Dept. of Chemistry
St. Francis Xavier University
PO Box 5000
Antigonish, NS B2G 2W5
www.cheminst.ca

Chemists

Labour Market Conditions

Estimated employment in 2002	360
Estimated change in employment between 2002 and 2007	STABLE
Estimated average annual number of job openings	10
Estimated rate of unemployment in 2001	SIGNIFICANTLY BELOW AVERAGE
Estimated average annual earnings in 1995	$44,000

Typical Occupations

Agricultural Chemist
Biochemist
Clinical Chemist
Food Chemist
Industrial Chemist
Oceanographic Chemist

Nature of the Work

Chemists conduct research and analysis in support of industrial operations, product and process development, quality control, environmental control, medical diagnosis and treatment, biotechnology, and other applications. They also conduct research and experiments into basic chemical and biochemical processes to create new products and processes. Activities may include analyzing, purifying, and modifying compounds as well as ensuring quality control of materials and products. These individuals also investigate chemical aspects of medical treatments for diseases, and participate in research and development projects working with other research professionals. Advances in instrumentation have made it possible to investigate biological processes at the molecular level. This has opened the doors of physiology and medicine to techniques of chemistry such as nuclear magnetic resonance imaging.

Requirements

- A minimum of a Master's degree in Chemistry, Biochemistry or a related field is generally required for these positions. To apply for a Master's degree program, you will usually require successful completion of a four-year honours Bachelor's degree program or an acceptable equivalent.
- A Doctoral degree (Ph.D.) is generally required for teaching at colleges or universities or conducting independent research. Admission to a Ph.D. program usually requires an honours Bachelor's degree with a minimum A- standing and completion of a two-year Master's degree with high academic standing. Applicants must have demonstrated an ability to perform advanced research.

Training Paths

- Most universities in the province offer three- and four-year Bachelor of Science programs with a major in Chemistry. To enter these programs you usually require high school completion with a minimum of five Grade 12 academic courses and high marks in Pre-calculus Mathematics and Chemistry.
- The Nova Scotia Agricultural College has a four-year Bachelor of Science degree in Agriculture with majors in Agricultural Chemistry and Soil Science. The college also offers a Master of Science degree with concentrations in Agricultural Chemistry, Food Science, and Soil Science.
- A Bachelor of Science in Food Science is available at Acadia University in which hands-on experience in a pilot-scale processing plant is an essential part of the degree program.
- Master's degree programs in Chemistry are available at Dalhousie, Acadia, and St. Francis Xavier universities.
- Dalhousie University offers a doctoral program in Chemistry.

Skills and Aptitudes

To work in this field, you must be comfortable working with delicate instruments and apparatus. The ability to concentrate on detail and to work independently is essential. You should be persistent, curious, precise, and accurate in your work. Both oral and written communication skills are important. Computer experience would also be helpful.

Likely Employers

Some chemists are employed by educational facilities, while others work for departments of the federal government (such as the Ministries of Labour, Health, Natural Resources, and Agriculture) or companies providing professional services.

Other Considerations

The majority of people in these occupations are employed full-time and for the full year, and there are no significant seasonal patterns of unemployment in these occupations. Continued diversification of the manufacturing sector in Nova Scotia may generate some job opportunities for workers with the appropriate skills.

Related Occupations

Chemical Engineers
Biologists and Related Scientists
Geologists and Oceanographers
Meteorologists and Other Professional Occupations in Physical Sciences
Physical Sciences Technicians and Technologists

For Further Information

Canadian Society for Chemistry
130 Slater St., Suite 550
Ottawa, ON K1P 6E2
email: gwilbee@cheminst.ca
www.cheminst.ca/careers

Chemical Institute of Canada –
Dept. of Chemistry
St. Francis Xavier University
PO Box 5000
Antigonish, NS B2G 2W5
www.cheminst.ca

Civil Engineers

Labour Market Conditions

- **Estimated employment in 2002.........630**
- **Estimated change in employment between 2002 and 2007....GROWING RAPIDLY**
- **Estimated average annual number of job openings..............................40**
- **Estimated rate of unemployment in 2001 ..........SIGNIFICANTLY BELOW AVERAGE**
- **Estimated average annual earnings in 1995................................$52.000**

Typical Occupations

Construction Engineer
Environmental Engineer
Hydro Technical Engineer
Municipal Engineer
Sanitation Engineer
Transportation Engineer

Nature of the Work

Civil engineers plan, design, and supervise the construction and maintenance of many kinds of projects: buildings, bridges, roads, railways, dams, tunnels, ports, and docks; water supply and sewage systems; transportation; and other facilities for public, industrial, or commercial use. They may specialize in areas such as foundation analysis, building and structural inspection, surveying, and municipal planning. Activities may include consulting with clients and other members of engineering teams and conducting research to determine project requirements, developing construction specifications and procedures, evaluating and recommending appropriate building and construction materials, and conducting technical analysis of survey and field data and preparing reports. Some work in offices most of the time, while others work in laboratories, industrial plants, or construction sites where they inspect, supervise, and solve on-site problems.

Requirements

Unless you are employed by the Canadian Forces, you must be registered with the Association of Professional Engineers of Nova Scotia (APENS) and have four years of relevant work experience to practise as a professional civil engineer in Nova Scotia. Experience is gained by becoming involved in a mentorship program where a professional engineer supervises your work. During this time you must prepare diaries that will be assessed by APENS, and eventually you must pass a professional practice exam regarding engineering ethics, law, and legislation. This exam may be written after gaining at least two years of direct engineering experience.

Training Paths

- To enter an Engineering diploma program, you must complete high school with a minimum of five Grade 12 academic courses and with high marks in Pre-calculus Mathematics, Physics, and Chemistry.
- An Engineering degree is only available in this province through a five-year Bachelor of Engineering program at Dalhousie University. Dalhousie also offers a cooperative education program that allows students to work for three terms under the supervision of practising engineers. The first two years of an Engineering degree must be completed through the Engineering diploma program at Acadia, Dalhousie, Saint Mary's, or St. Francis Xavier universities, University of Prince Edward Island, Nova Scotia Agricultural College, or University College of Cape Breton (UCCB).

Skills and Aptitudes

To work in this field, you should be interested in planning and designing buildings, bridges, dams, roadways, and other infrastructure. Problem-solving and decision-making skills are essential. You should be persistent, curious, and able to think in an analytical and logical manner. The ability to communicate and cooperate with others is important, as engineers often work in teams. Computer skills are also needed.

Likely Employers

About half of all civil engineers are employed by firms who offer engineering services, while others work for government departments or construction companies.

Other Considerations

Most people in these occupations are employed full-time and for the full year. Many civil engineering jobs depend upon government-funded infrastructure projects, which often vary from year to year in number and size.

Related Occupations

Architects and Landscape Architects
Professional Land Surveyors
Technical Occupations in Civil, Mechanical, and Industrial Engineering

For Further Information

Association of Consulting Engineers of Canada
130 Albert St., Suite 616
Ottawa, ON K1P 5G4
www.acec.ca

Association of Professional Engineers of Nova Scotia
1355 Barrington St.
PO Box 129
Halifax, NS B3J 2M4
www.apens.ns.ca

Canadian Society for Civil Engineering
4920 Maisonneuve West, Suite 201
Montreal, QC H3Z 1N1
www.csce.ca

Labour Market Conditions

- **Estimated employment in 2002 .... 220**
- **Estimated change in employment between 2002 and 2007 .... GROWING**
- **Estimated average annual number of job openings 20**
- **Estimated rate of unemployment in 2001 .... SIGNIFICANTLY BELOW AVERAGE**
- **Estimated average annual earnings in 1995 .... $41,000**

Computer Engineers

Typical Occupations

Computer Hardware Engineer
Computer Systems Engineer
Software Developer
Systems Design Engineer

Nature of the Work

Computer engineers research, plan, design, develop, and test computers, related equipment, and software. This may be in relation to communications, image and signal processing, robotics and artificial intelligence, or other areas. Activities of computer hardware engineers may include designing and coordinating the development of computers and related equipment; supervising the installation, modification, and testing of computers; and supervising technicians and technologists. Activities of computer software developers may include designing and coordinating the development, testing, and implementation of computer languages and computer software packages, and supervising the work of programmers and other personnel.

Requirements

- Computer hardware engineers and software engineers require a Bachelor's degree in Computer Engineering, Electrical or Electronic Engineering, or Engineering Physics. In order to meet the educational requirements for a professional engineer, you must take a Canadian Engineering Accreditation Board–approved program.
- With the exception of engineers employed by the Canadian Forces, professional computer engineers must be registered with the Association of Professional Engineers of Nova Scotia (APENS) and have four years of relevant work experience to practise in Nova Scotia. Experience is gained by becoming involved in a mentorship program where a professional engineer supervises a trainee's work. During this time, trainees must prepare diaries that will be assessed by APENS, and eventually must pass a professional practice exam regarding engineering ethics, law, and legislation. This exam may be written after gaining at least two years of direct engineering experience.

Training Paths

- To enter an Engineering diploma program, you must complete high school with five Grade 12 academic courses and with high marks in Pre-calculus Mathematics, Physics, and Chemistry.
- An Engineering degree is only available in this province through a five-year Bachelor of Engineering program at Dalhousie University. Dalhousie also offers a cooperative education program that allows students to work for three terms under the supervision of practising engineers. The first two years of an Engineering degree must be completed through an Engineering diploma program at Acadia, Dalhousie, Saint Mary's, or St. Francis Xavier universities, University of Prince Edward Island, Nova Scotia Agricultural College, or University College of Cape Breton (UCCB).
- A Computer Engineering option is available within the Bachelor of Engineering degree at Dalhousie University. This option is available to students registered in the Department of Electrical Engineering who wish to specialize in the area of computer engineering.

Skills and Aptitudes

To work in this field, excellent computer skills are essential. You should be interested in the development of computer systems and equipment. You should enjoy problem-solving and be able to think analytically and logically. Effective communication skills are very important. Creativity would also be helpful.

Likely Employers

Many computer engineers work in the business services industry, while others work with the federal government and the telecommunications industry.

Other Considerations

Most people in these occupations are employed full-time and for the full year. Rapid changes in computer technology mean that people in this field should be prepared to keep abreast of new developments in computer hardware, software, and networking technologies.

Related Occupations

Computer Programmers
and Systems Analysts
Managers in Financial, Communications,
and Other Business Services
Professional Occupations in
Business Services to Management
Technical Occupations in Electronics
and Electrical Engineering

For Further Information

Association of Consulting
Engineers of Canada
130 Albert St., Suite 616
Ottawa, ON K1P 5G4
www.acec.ca

Association of Professional
Engineers of Nova Scotia
1355 Barrington St.
PO Box 129
Halifax, NS B3J 2M4
www.apens.ns.ca

Software Human Resource Council
30 Metcalfe St., Suite 400
Ottawa, ON K1P 5L4
www.shrc.ca

Computer Programmers and Systems Analysts

Labour Market Conditions

Estimated employment in 2002	7800
Estimated change in employment between 2002 and 2007	GROWING RAPIDLY
Estimated average annual number of job openings	380
Estimated rate of unemployment in 2001	SIGNIFICANTLY BELOW AVERAGE
Estimated average annual earnings in 1995	$40,000

Typical Occupations

Business Systems Analyst
Computer Graphics Specialist
Database Administrator
Network Administrator
Software and Systems Programmer
Software Consultant
Technical Support Specialist
Web Developer

Nature of the Work

Computer programmers write programs or software packages by coding sets of instructions into a form that computers can read. Other activities include testing, debugging, documenting, and implementing computer programs or software packages; maintaining existing computer programs by making minor modifications as required; and acting as resource persons to solve problems for computer operators.

Systems analysts define business, scientific, or engineering problems and design their solutions using computers. This process may include planning and developing new computer systems, or devising ways to apply existing systems to operations still completed manually or by some less efficient method. They may design entirely new systems, including hardware and software, or add a single new software application to enhance the computer's capabilities. Systems analysts also examine information processing or computation needs, analyze databases, and supervise computer programmers. A considerable amount of business and software application knowledge is normally required for an analyst's position.

Requirements

- A Bachelor's degree in Computer Science, Mathematics, Commerce, or Business Administration or a diploma in Computer Programming, Computer Graphics, Computer Science, or Computer Science Technology is usually required for this type of work. On-the-job work experience would be an asset and in some cases may serve to replace some academic requirements, depending on the extent and type of training you have received.
- Systems analysts are encouraged to complete an academic or training program with a significant programming component. Engineering firms may require a Bachelor's degree in Engineering.

Training Paths

- Several universities offer four-year Bachelor's degrees in Computer Science or Information Systems. Four-year Bachelor of Science programs with a major in Computer Science are also available at numerous universities throughout the province. To enter any of these programs, you must complete high school with high marks in mathematics and science courses at the Grade 12 level.
- A number of the campuses of the Nova Scotia Community College (NSCC) offer two-year diploma programs in Information Technology, with concentrations in Database Management, Internet, Programming and Systems Management/Networking. The admission requirement to these programs is a high school diploma with English 12 and academic Mathematics 12. Please consult the NSCC calendar for details on the locations and concentrations of IT program offerings. The Burridge campus of NSCC offers a one-year advanced diploma program in Computer Network Technology. The admission requirement to this program is possession of a diploma or degree in a computer-related area. College de l'Acadie offers a two-year diploma program in Computer Network Management.
- The University College of Cape Breton (UCCB) offers a three-year diploma and four-year Bachelor of Technology (Information) through a cooperative education program. Applicants must complete Grade 12 with English 12 and Pre-calculus Mathematics. This program prepares the student to work in a business computer information processing environment where emphasis is placed on computer programming with a background in systems design, computer operation, and management.
- A variety of related programs are available through private career colleges. Please contact the Private Career Colleges Section, Nova Scotia Department of Education, for information on registered private career colleges and the programs offered.

Skills and Aptitudes

Computer programmers and systems analysts should be capable of precise, accurate, and detailed work. You must be organized, methodical, and analytical. Creativity and the ability to solve problems are also necessary. Effective oral and written communication skills are important. As this field is continually progressing, you should always be prepared to update your knowledge and skills on a regular basis.

Likely Employers

Those employed in this field work in a variety of different business sectors. Computer programmers are most often employed by computer service providers or consultants, departments of the federal and provincial governments, and the telecommunications industry.

Other Considerations

The majority of workers in these occupations work full-time and for the full year. Rapid growth in the volume and availability of electronic data has resulted in a growing need to store, organize, analyze and present this information in increasingly efficient ways. This is expected to cause the demand for these specialists to rise. Continuous changes in computer technology mean that people in this field should be prepared to keep abreast of new developments in computer hardware, software and networking technologies.

Related Occupations

- Computer Engineers
- Creative Designers and Technicians
- Managers in Financial, Communications, and Other Business Services
- Professional Occupations in Business Services to Management
- Technical Occupations in Electronics and Electrical Engineering

For Further Information

Canadian Information Processing Society
Bluenose Section
PO Box 2132, Station M
Halifax, NS B3J 3B7
www.cips.ca/bluenose

Nova Scotia Department of Education
Private Career Colleges
PO Box 578
Halifax, NS B3J 2S9
pcc.ednet.ns.ca

Software Human Resource Council
30 Metcalfe St., Suite 400
Ottawa, ON K1P 5L4
www.shrc.ca

Deck and Engineer Officers, Water Transport

Labour Market Conditions

- **Estimated employment in 2002.........630**
- **Estimated change in employment between 2002 and 2007 ....STABLE**
- **Estimated average annual number of job openings.........................10**
- **Estimated rate of unemployment in 2001...........................ABOVE AVERAGE**
- **Estimated average annual earnings in 1995................................$53,000**

Typical Occupations

Chief Engineer
Marine Engineer Officer
Navigation Officer
Ship's Captain
Ship's First Mate

Nature of the Work

Workers in this group operate ships or self-propelled vessels to transport passengers and cargo, and maintain and operate the engines of these vessels. Activities of deck officers may include planning and executing safe passage using navigational aids; determining geographical position using navigational instruments, maps, and charts; maintaining the vessel's instruments and equipment; directing and overseeing loading and unloading of cargo; and recording the vessel's progress, crew's activities, and weather and sea conditions on the ship's log. Activities of engineer officers may include operating main engines, machinery, and all auxiliary equipment aboard ships; standing engine room watch; and inspecting and conducting maintenance and emergency repair to engines and machinery.

Requirements

- Deck officers are usually required to successfully complete high school and a deck officer cadet program from an approved nautical institute. Deck officers are required to have the Transport Canada Certificate of Competency. Training is offered at various levels that you may combine to finish with a Master Mariner Certificate.
- Engineer officers are also required to have a certificate of competency issued by Transport Canada. In terms of academic/training requirements, an engineering officer must complete a three-year cadet program in Marine Engineering or have at least three years of relevant work experience as an engine room crew member and have six months of sea experience.

Training Paths

- The Strait Area Campus of the Nova Scotia Community College (NSCC) offers a one-year certificate in Marine Engineering–Cadet and a one-year certificate Marine Engineering–Cadet program. Entrance to both programs requires a high school diploma; preference is given to applicants who have English 12, Mathematics 12 and Science subjects. In addition, applicants require a number of first aid and workplace safety courses. Please check the NSCC calendar for details on program admission requirements.
- Formal training, such as the training provided by the Canadian Forces, may also be received on the job.
- The Coast Guard College offers four-year Navigation and Engineering Officer programs.

Skills and Aptitudes

To work in these occupations, you should enjoy being at sea. A sense of responsibility and strong leadership qualities are needed. You must be in good health and meet eyesight and colour vision requirements. Problem-solving and decision-making skills are also important. A mechanical aptitude may also be helpful.

Likely Employers

Most people in these occupations work in the water transportation industry or with federal government departments, such as Ports Canada. Others are employed in various areas of the fishing industry.

Other Considerations

The majority of workers in these occupations work full-time and for the full year. Employment opportunities will mainly depend upon export levels and the ability of shipping companies to be competitive with other forms of transportation.

Related Occupations

Fishing Vessel Masters, Skippers, and Fishers
Mechanical Engineers
Other Professional Engineers

For Further Information

Canadian Coast Guard College
PO Box 4500
Sydney, NS B1P 6L1
www.cgc.ns.ca

Transport Canada
330 Sparks St.
Ottawa, ON K1A 0N5
www.tc.gc.ca

Labour Market Conditions

- **Estimated employment in 2002** 820
- **Estimated change in employment between 2002 and 2007** .... GROWING
- **Estimated average annual number of job openings** 10
- **Estimated rate of unemployment in 2001** .... AVERAGE
- **Estimated average annual earnings in 1995** $36,000

Drafting Technicians and Technologists

Typical Occupations

Architectural Drafter
Computer-aided Design and Drafting Technician
Mechanical Draftsperson
Structural Draftsperson
Technical Illustrator

Nature of the Work

Drafting technologists and technicians prepare engineering designs, drawings, and related technical information. They may work independently, as part of an engineering team, or in support of engineers, architects, or industrial designers. Activities of drafting technologists may include operating computer-aided design (CAD) and drafting stations; developing and preparing design sketches; writing technical reports; checking and verifying design drawings to ensure that they conform to specifications and design data; preparing construction specifications, costs, and material estimates; and preparing contracts and tender documents. Activities of drafting technicians may include developing and preparing engineering drawings, plans, diagrams, and layouts from sketches.

Requirements

- To become a drafting and design technologist, it is recommended that you complete a two- to three-year college program in Engineering Design and Drafting Technology or in a related field.
- Drafting technicians, on the other hand, may be required to obtain a one- to two-year college program in drafting.
- In some cases, several years of relevant work experience plus some relevant college courses may replace formal academic requirements.

Training Paths

- A two-year diploma program in Architectural Drafting is offered at the Institute of Technology, Lunenburg, and Marconi campuses of the Nova Scotia Community College (NSCC). A two-year diploma program in Mechanical Drafting is offered at the Lunenburg and Pictou campuses of NSCC. The entrance requirement to either of these programs is a high school diploma, with preference given to applicants who have Mathematics 12 and Physics 12, or equivalent.

Skills and Aptitudes

For these occupations, you should have talent in drawing and sketching. A neat and systematic approach to projects is important. You must be accurate, precise, and efficient. The ability to work under pressure and meet deadlines may also be necessary. Computer skills are usually required.

Likely Employers

The majority of people in this field are employed by professional service companies, while others work for transportation equipment businesses, or federal or provincial government departments.

Other Considerations

The majority of workers in these occupations work full-time and for the full year. Jobs in these occupations, however, tend to be seasonal, perhaps as a result of increased construction and renovation activity in the summer months. Continued employment in these occupations will require constant learning to keep pace with the rapidly changing technology in this highly computerized field. Because the work is closely related to construction activity, employment levels are sensitive to changes in economic conditions.

Related Occupations

Architectural Technicians and Technologists
Industrial Designers
Mapping and Related Technicians and Technologists
Technical Occupations in Civil, Mechanical, and Industrial Engineering
Technical Occupations in Electronics and Electrical Engineering

For Further Information

Canadian Council of Technicians and Technologists
285 McLeod St.
Ottawa, ON K2P 1A1
www.cctt.ca

Society of Certified Engineering Technicians and Technologists of Nova Scotia
PO Box 159, D.M.P.S.
Dartmouth, NS B2Y 2Y3
www.scettns.ns.ca

Labour Market Conditions

- **Estimated employment in 2002** 710
- **Estimated change in employment between 2002 and 2007** ....GROWING RAPIDLY
- **Estimated average annual number of job openings** 30
- **Estimated rate of unemployment in 2001** ...........SIGNIFICANTLY BELOW AVERAGE
- **Estimated average annual earnings in 1995** $49,000

Electrical and Electronics Engineers

Typical Occupations

Avionics Engineer
Communications Engineer
Microwave Systems Engineer
Roadway Lighting Design Engineer
Television Systems Engineer

Nature of the Work

These engineers design, develop, test, and supervise the manufacture of electrical and electronic equipment. They may specialize in a number of areas, including electrical design for residential, commercial, or industrial installations; communications systems; and instrumentation and control systems. Activities may include developing maintenance and operating standards for electrical and electronic equipment; designing electrical and electronic circuits, components, systems, and equipment; preparing material, cost, and time estimates to complete required work; and writing performance reports and design specifications. Some engineers work in an office most of the time, while others work in laboratories, industrial plants, or construction sites where they inspect, supervise, and solve on-site problems.

Requirements

Unless you are an engineer employed by the Canadian Forces, you must be registered with the Association of Professional Engineers of Nova Scotia (APENS) and have four years of relevant work experience to practise engineering in Nova Scotia. Experience is gained by becoming involved in a mentorship program where a professional engineer supervises a trainee's work. During this time you must prepare diaries that will be assessed by APENS, and eventually you must pass a professional practice exam regarding engineering ethics, law, and legislation. This exam may be written after gaining at least two years of direct engineering experience.

Training Paths

- To prepare for an engineering program, you must complete high school with a minimum of five Grade 12 academic courses and high marks in Grade 12 Pre-calculus Mathematics, Physics and Chemistry.
- An Engineering degree is only available in this province through a five-year Bachelor of Engineering program at Dalhousie University. Dalhousie also offers a cooperative education option for those who choose to pursue this avenue. The first two years of an Engineering degree must be completed through an Engineering diploma program at Acadia, Dalhousie, Saint Mary's, or St. Francis Xavier universities, University of Prince Edward Island, Nova Scotia Agricultural College, or University College of Cape Breton (UCCB). The final three years of the Bachelor in Engineering degree are completed at Dalhousie. To work in this field, you need a Bachelor of Engineering degree in Electrical and Computer Engineering.

Skills and Aptitudes

To work in this field, you should be interested in the design and operation of electrical systems and equipment. The ability to communicate and cooperate with others is important, as engineers often work in teams. You should enjoy problem-solving and be able to think analytically and logically. Computer skills would also be helpful.

Likely Employers

Electrical and electronics engineers are mainly employed in the business service sector or with the federal government. Utility companies, such as those providing telephone service and electrical power, also employ electrical and electronics engineers as do firms that manufacture electrical and electronic equipment.

Other Considerations

Most people in these occupations are employed full-time and for the full year. The growing use of telecommunication, multi-media, and other electronic equipment in homes, businesses, and manufacturing facilities will help generate job opportunities for people with the appropriate electrical and electronics engineering skills. Therefore, it is important that workers keep up to date with changing technology.

Related Occupations

Computer Engineers
Computer Programmers
  and Systems Analysts
Electrical and Electronics Assemblers
Technical Occupations in Electronics
  and Electrical Engineering

For Further Information

Association of Consulting
Engineers of Canada
130 Albert St., Suite 616
Ottawa, ON K1P 5G4
www.acec.ca

Association of Professional
Engineers of Nova Scotia
1355 Barrington St.
PO Box 129
Halifax, NS B3J 2M4
www.apens.ns.ca

Labour Market Conditions

- **Estimated employment in 2002.........180**
- **Estimated change in employment between 2002 and 2007...........DECLINING**
- **Estimated average annual number of job openings..............................10**
- **Estimated rate of unemployment in 2001 ....BELOW AVERAGE**
- **Estimated average annual earnings in 1995.................................$37,000**

Foresters

Typical Occupations

Consulting Forester
Forest Agrologist
Forest Engineer
Forest Pathologist
Registered Professional Forester

Nature of the Work

Foresters conduct research, develop plans, and administer and direct programs related to the management and harvesting of forest resources. They apply their knowledge and experience to manage the forest for their employers and the public. They plan and direct forest surveys and related studies, prepare reports and recommendations, and establish short- and long-term objectives for the management of forest resources. They plan and direct programs for harvesting, reforestation, silviculture, fire prevention and fire suppression, road building, wildlife management, environmental protection, and insect and vegetation control. They plan and conduct public relations, education, and extension programs related to forestry; develop and implement policy related to the forestry; and provide advice and recommendations as consultants on forestry issues to private woodlot owners, municipal, provincial or federal governments, and companies.

Requirements

To become a designated professional forester or Registered Professional Forester (RPF), you must have a Bachelor of Science degree in Forestry or Forestry Engineering, have two years' work experience under the direction of a professional forester, and successfully pass an exam regarding forestry laws, provincial legislation regulations, and ethics. The Registered Professional Foresters Association of Nova Scotia certifies professional foresters. This designation is voluntary in Nova Scotia, although other provinces may require certification to practise in this field.

Training Paths

- Admission requirements for programs may vary. However, general preparation involves high school academic courses in English, Mathematics, and the sciences.
- Université de Moncton delivers a five-year Forestry degree in French at its Edmundston Campus. You require high school graduation with Grade 12 courses in French, English, History, Pre-calculus Mathematics, and two of Chemistry, Physics, and Biology. You require a minimum average of 60% with no less than 65% in French.
- The University of New Brunswick in Fredericton offers Bachelor's degree programs in Forestry Ecosystem Management and Forestry Engineering. These five-year degree programs emphasize quantitative decision-making skills, computer-based technology, and the sciences. To enter either of these programs, you must have successfully completed high school with a minimum of five Grade 12 academic courses including English 12, Pre-calculus Mathematics, Physics 12, and Chemistry 12.
- Master's and Ph.D. degrees are available at most schools that offer undergraduate degrees.

Skills and Aptitudes

To work in this field, you should have an aptitude for administrative work and project management. Leadership skills and effective oral and written communication skills are necessary. You must be able to work alone and as part of a team. You should enjoy working outdoors and be prepared to spend time in isolated areas. Physical stamina may also be needed. An interest in science at the high school level is important.

Likely Employers

Of the limited number of foresters in Nova Scotia, most are employed in the forestry services sector or the logging industry. Others may work in the wood products industry.

Other Considerations

The majority of workers in these occupations work full-time and for the full year. Unlike othe[illegible]stry occupations there are no significant seasonal patterns of unemployment among foresters. Over one-third of people in this occupation are self-employed.

Related Occupations

Agricultural Representatives,
Consultants and Specialists
Biologists and Related Scientists
Life Sciences Technicians
and Technologists
Logging and Forestry Workers
Supervisors in Primary Industry

For Further Information

Canadian Institute of Forestry
580 Booth St., 7th Floor
Ottawa, ON K1A 0E4
www.cif-ifc.org

Nova Scotia Department
of Natural Resources
Founders Square, 3rd Floor
1701 Hollis St.
PO Box 698
Halifax, NS B3J 2T9
www.gov.ns.ca/natr

Nova Scotia Forest Products Association
PO Box 696
Truro, NS B2N 5E5
www.nsfpa.ns.ca

Nova Scotia Forestry Association
PO Box 1113
Truro, NS B2N 5G9
www.nsfa.ns.ca

Registered Professional Foresters
Association of Nova Scotia
PO Box 1031
Truro, NS B2N 5G9
www.rpfans.ca

Geologists and Oceanographers

Labour Market Conditions

Estimated employment in 2002	160
Estimated change in employment between 2002 and 2007	STABLE
Estimated average annual number of job openings	10
Estimated rate of unemployment in 2001	AVERAGE
Estimated average annual earnings in 1995	$53,000

Typical Occupations

Environmental Geologist
Geochemist
Geophysicist
Mineralogist
Paleontologist
Petroleum Geologist

Nature of the Work

Geologists, geochemists, and geophysicists explore and research to locate and identify hydrocarbon, mineral, and ground water resources; to plan and implement programs of hydrocarbon and mineral extraction; and to assess the effects of development and waste disposal projects on the environment. Geologists conduct research into the nature and history of the earth's crust. They search for mineral and energy resources, and study the distribution, circulation, and properties of water and sediment. Activities include geological mapping using remote sensing and field techniques; identifying and classifying minerals and rocks; planning and directing field studies and drilling and testing programs; and developing software for the analysis and interpretation of data. Activities may also include identifying and anticipating natural risks such as slope erosion, landslides, and earthquakes; conducting geochemical analysis of water and sediments for environmental assessments; and identifying factors that influence environmental quality, such as the effects of waste disposal.

Oceanographers study the physical and chemical features of the ocean. Activities include collecting information using remote sensing devices on ships; analyzing the chemical composition and nutrients of the ocean; studying the interaction between the surface of the ocean and the atmosphere; and analyzing the currents throughout the water column on scales ranging from small coves to world ocean basins.

Requirements

- A Master's or Ph.D. degree is usually necessary for jobs with exploration companies, research institutes, or universities. Further education at the Master's level and on-the-job experience with a Bachelor's degree are highly desirable. To apply for a Master's degree program, you will usually require successful completion of a four-year honours Bachelor's degree program or an acceptable equivalent.
- Oceanographic scientists and paleontologists generally have a Ph.D. in Science (Geology, Biology, Chemistry, or Physics). Admission to a Ph.D. program usually requires an honours Bachelor's degree with a minimum A- standing and completion of a two-year Master's degree with high academic standing. Applicants must have demonstrated an ability to perform advanced research.

Training Paths

- To prepare for study in these fields, you must complete high school with a strong background in mathematics and science.
- Acadia, Dalhousie, St. Francis Xavier, and Saint Mary's universities in Nova Scotia offer Bachelor of Science degrees in Geology.
- Cooperative education programs are available for Dalhousie University's Earth Sciences program and the Bachelor of Science program in Geology at Saint Mary's University.
- The Nova Scotia Agricultural College offers a Bachelor of Science degree in Agriculture with a major in Soil Science that is also appropriate for people interested in this area. These programs can be three to five years long.
- Master's degree programs in Geology are available at Acadia, Dalhousie, and St. Francis Xavier universities. Dalhousie offers a Ph.D. program in Geology.
- Dalhousie University offers a Bachelor of Science in Oceanography. Master's and Ph.D. programs in Oceanography are also available at Dalhousie. These programs require a Bachelor's degree in a related area for entrance.

Skills and Aptitudes

To work in this field, you should have an interest in the earth's structure and materials. The ability to communicate and cooperate with others is important, as these individuals often work in teams. Also, a familiarity with computers is essential. You should be curious, adaptable, and patient, and enjoy working with scientific data. Physical stamina may be necessary for those doing fieldwork in remote areas or at sea.

Likely Employers

Some researchers work in professional service companies, while the majority are employed by federal or provincial government departments.

Other Considerations

The majority of workers in these occupations work full-time and for the full year. Any future oil and natural gas exploration and development activity may generate job opportunities for geologists with the appropriate training.

Related Occupations

Chemists
Meteorologists and Other Professional Occupations in Physical Sciences
Other Professional Engineers
Physical Sciences Technicians and Technologists

For Further Information

Canadian Meteorological and Oceanographic Society
150 Louis Pasteur Ave., #112
Ottawa, ON K1N 6N5
www.meds-sdmm.dfo-mpo.gc.ca/cmos

Nova Scotia Department of Natural Resources
Founders Square, 3rd Floor
1701 Hollis St.
PO Box 698
Halifax, NS B3J 2T9
www.gov.ns.ca/natr

Industrial and Manufacturing Engineers

Labour Market Conditions

Estimated employment in 2002	310
Estimated change in employment between 2002 and 2007	GROWING
Estimated average annual number of job openings	20
Estimated rate of unemployment in 2001	SIGNIFICANTLY BELOW AVERAGE
Estimated average annual earnings in 1995	$44,000

Typical Occupations

Cost Engineer
Management Engineer
Production Engineer
Quality Control Engineer
Safety Engineer

Nature of the Work

These engineers conduct studies, and develop and supervise programs to achieve efficient industrial production and efficient use of industrial human resources, machinery, materials, information, and energy. Activities may include planning and designing plant layouts and facilities, developing manufacturing systems, analyzing production costs, assessing facilities, and determining skill requirements of workers.

Industrial engineers are the bridge between management and operations, and are more concerned with increasing productivity through the management of people and methods of business organization than engineers in other specialties. Industrial engineers spend much of their time in their offices using computers. However, more so than for other types of engineering, these engineers must also spend a large amount of time with the people who are key components of the systems being designed.

Manufacturing engineers plan, direct, and coordinate elements of design, materials, and manufacturing process in industrial plants. They work from the design for a product and develop processes for production, standards, and quality control.

Requirements

Unless you are employed by the Canadian Forces, you must be registered with the Association of Professional Engineers of Nova Scotia (APENS) and have four years of relevant work experience to practise as a professional industrial or manufacturing engineer in Nova Scotia. Experience is gained by becoming involved in a mentorship program where a professional engineer supervises your work. During this time you must prepare diaries that will be assessed by APENS, and eventually you must pass a professional practice exam regarding engineering ethics, law, and legislation. This exam may be written after gaining at least two years of direct engineering experience.

Training Paths

- To prepare for an engineering program, you must complete high school with a minimum of five Grade 12 academic courses and with high marks in Grade 12 Pre-calculus Mathematics, Physics, and Chemistry.
- An Engineering degree is only available in this province through a five-year Bachelor of Engineering program at Dalhousie University. Dalhousie also offers a cooperative education option for those who choose to pursue this avenue. The first two years of an Engineering degree must be completed through an Engineering diploma program at Acadia, Dalhousie, Saint Mary's, or St. Francis Xavier universities, University of Prince Edward Island, Nova Scotia Agricultural College, or University College of Cape Breton (UCCB). The final three years of the Bachelor in Engineering degree are completed at Dalhousie, which offers a program in Industrial Engineering. There is no actual Manufacturing Engineering program currently offered in Nova Scotia, although students can acquire some depth in this discipline by appropriate selections of elective courses within both the Industrial and Mechanical Engineering programs.

Skills and Aptitudes

To work in this field, you should be interested in organizing, managing, and integrating automation in the workplace. Persistence, ingenuity, and the ability to think analytically and logically are important. You must be able to communicate and work well with others, as engineers often work in teams. Good judgement, problem-solving, and leadership skills are also expected. Computer experience would be helpful.

Likely Employers

Many industrial and manufacturing engineers are employed in the rubber products industry, while others work for plastics producers, the federal government, or companies providing professional engineering services.

Other Considerations

The majority of workers in these occupations work full-time and for the full year. The services provided by people in these occupations are becoming more important as firms strive to become more competitive through the use of technologically advanced equipment and more efficient means of production. The rising importance of research into the design and production of new products should also contribute to job openings in these fields. It is essential for workers to keep up to date with changing technology.

Related Occupations

Computer Engineers
Professional Occupations in
  Business Services to Management
Technical Occupations in Civil,
  Mechanical, and Industrial Engineering

For Further Information

Association of Consulting
Engineers of Canada
130 Albert St., Suite 616
Ottawa, ON K1P 5G4
www.acec.ca

Association of Professional
Engineers of Nova Scotia
1355 Barrington St.
PO Box 129
Halifax, NS B3J 2M4
www.apens.ns.ca

Canadian Society for
Industrial Engineering
Atlantic Provinces Chapter
c/o Dalhousie University
Department of Industrial Engineering
1190 Barrington St.
Halifax, NS B3H 2R4
is.dal.ca/~csie.index.html

Labour Market Conditions

- **Estimated employment in 2002 ....40**
- **Estimated change in employment between 2002 and 2007............GROWING**
- **Estimated average annual number of job openings 5**
- **Estimated rate of unemployment in 2001 ...........SIGNIFICANTLY BELOW AVERAGE**
- **Estimated average annual earnings in 1995................................$33,000**

Industrial Designers

Typical Occupations

Furniture Designer
Industrial Design Consultant
Industrial Products Designer
Package Designer
Product Designer

Nature of the Work

Industrial designers develop and design countless manufactured products like cars, home appliances, children's toys, computer equipment, and medical, office, or recreational equipment. They create design concepts, sketches, or models, and prepare specifications and guidelines for production. They combine artistic talent with research on product use, marketing, materials, and production methods to create the most functional and appealing design and to make the product competitive with others in the marketplace. As an industrial designer, you would consult with clients, engineers, or production specialists to establish product requirements; analyze the intended use of the product; and conduct research into the costs and methods of production. Furniture designers design furniture for manufacture, according to knowledge of design trends, competitors' products, production costs, capability of production facilities, and characteristics of a company's market. To facilitate production, they may also design and prepare detailed drawings of fixtures, forms, or tools required to be used in production.

Requirements

A university degree in Industrial Design, Architecture, or Engineering, or a college diploma in Industrial Design, is usually required to work in this field. Courses in marketing may also be useful.

Training Paths

- Admission to these university and college programs requires a minimum of a high school diploma.
- The Nova Scotia College of Art and Design (NSCAD) offers a Bachelor of Design (Honours) with a major in Communication Design. This program is principally concerned with educating students to become professional designers for printed and electronic media. To be eligible for entrance, you must have successfully completed the first two years of study within the Bachelor of Fine Arts (Interdisciplinary) program or the Bachelor of Design program with a major in Environmental Design. You must have a very good academic standing to gain admission, as spaces are limited. A portfolio review will also be required.
- The Marconi campus of the Nova Scotia Community College (NSCC) offers a two-year diploma program in Furniture and Woodworking Technology. The entrance requirement is a high school diploma.
- The Halifax, Annapolis Valley and Marconi campuses of the Nova Scotia Community College (NSCC) offer a one-year diploma program in Graphic Design. Entrance requirements are the one-year certificate program in Applied Communication Arts or equivalent and a submitted portfolio. The one-year certificate Applied Communication Arts program is offered at the same campuses of the NSCC as above; entrance requirements to this program are a high school diploma and a submitted portfolio.

Skills and Aptitudes

To work in this field, you should be creative, imaginative, and artistic. You must be able to communicate ideas both visually and verbally. You must be able to work well with people and be open to new ideas and influences. Computer skills are an asset.

Likely Employers

Of the small number of industrial designers in Nova Scotia, most are employed by food products and textile companies, or by provincial government departments.

Other Considerations

The majority of workers in these occupations work full-time, for the full year. The rate at which new manufacturing technology is adopted will affect the number of job openings in these occupations.

Related Occupations

Architectural Technicians and Technologists
Creative Designers and Technicians
Technical Occupations in Civil, Mechanical, and Industrial Engineering

For Further Information

Design Exchange
Toronto Dominion Centre
234 Bay St.
PO Box 18
Toronto, ON M5K 1B2
www.dx.org

Nova Scotia Department of Tourism and Culture
Crafts Section, Cultural Affairs Division
1683 Barrington St.
PO Box 456
Halifax, NS B3J 2R5
www.craft-design.gov.ns.ca

Life Sciences Technicians and Technologists

Labour Market Conditions

Estimated employment in 2002	1240
Estimated change in employment between 2002 and 2007	GROWING
Estimated average annual number of job openings	20
Estimated rate of unemployment in 2001	SIGNIFICANTLY ABOVE AVERAGE
Estimated average annual earnings in 1995	$34,000

Typical Occupations

Agricultural Technician
Conservation and Fisheries Officer
Dairy Products Inspector
Fish Hatchery Technician
Forest Technician
Landscape and Horticultural Technician

Nature of the Work

These occupations are concerned with performing technological and technical functions in the life sciences, such as forestry, botany, zoology, horticulture, or agriculture. Biological technologists and technicians may provide support to scientists, engineers, or others working in the fields of agriculture, microbiology, molecular biology, or related areas. For example, biological technologists conduct tests and laboratory analysis in support of quality control in food production, sanitation, pharmaceutical production, and other fields. They also perform experiments in agriculture, animal and plant breeding, biology, and biomedical research. Agricultural and fish products inspectors ensure that production, storage, and transportation standards are maintained. Forestry technologists and technicians may work independently or provide technical and supervisory abilities in support of forestry research and forest resources conservation and protection. Conservation and fisheries officers enforce federal and provincial regulations developed to protect fish, wildlife, and other natural resources.

Requirements

- For this work, you must complete a Bachelor's degree or an appropriate community college program.
- For example, to work in the field of forestry technology, completion of a one- to three-year college program in Forestry Technology, or a related subject would generally be required.
- Conservation and fishery officers would generally be required to complete a one- to three-year college program in Renewable Resources Management.
- Completion of a two- to three-year college program in a field related to agriculture, biology, microbiology, wildlife, or resource management is usually required for employment in the field of biological technology. A one- to two-year college program may be required to become a biological technician.
- A Bachelor's degree or college diploma in Agriculture, Biology, or Food Processing Technology would be required to work as an agricultural and fish products inspector. In some cases, several years of relevant work experience may serve to replace formal academic requirements.

Training Paths

- Most universities in Nova Scotia offer three- and four-year Bachelor of Science programs. Admission usually requires high school completion with Pre-calculus Mathematics, English 12, and at least two science courses at the Grade 12 level.
- The Cumberland, Lunenburg and Strait campuses of the Nova Scotia Community College (NSCC) offer a one-year certificate program in Forestry Resources. The entrance requirement is a high school diploma. Graduates may choose to continue their studies at the Maritime Forest Ranger School.
- If you are interested in a career as a Conservation Officer or Fisheries Officer, you may also wish to investigate programs offered by the Marine Institute at Memorial University, Newfoundland; and Holland College, Prince Edward Island.
- The Maritime Forest Ranger School in Fredericton, New Brunswick, offers a Forest Ranger program equivalent to a two-year Forest Technology program. This program is also available in French at its campus in Bathurst, New Brunswick. This program includes required courses in Forest Botany, Forest Wildlife Management, Silviculture, and Surveying. As part of the program, all students are required to work in a natural resource field for at least twelve weeks. Applicants who have completed Grade 12 with Pre-calculus Mathematics, Biology, English or French, and an introduction to computers are preferred.
- The Kingstec campus of the NSCC offers a one-year certificate program in Horticulture–Greenhouse/Nursery and a one-year certificate program in Horticulture–Landscape. The entrance requirement to either of these programs is a high school diploma. Kingstec also offers a one-year diploma program in Horticulture–Retail Garden Centre; the entrance requirement is a horticultural diploma or certificate or appropriate work experience.
- The Institute of Technology campus of the NSCC offers a two-year diploma program in Water Resources Technology. The entrance requirement is a high school diploma with English 12, Mathematics 12, Chemistry 12, and Physics 12.
- The Nova Scotia Agricultural College (NSAC) offers many one- to two-year technician and two- to three-year technology programs in agricultural sciences. The technician programs include Animal Science, Plant Science, and Bio-Resources Engineering. The technology programs include Animal Health, Landscape Horticulture, Agricultural Technology, Chemistry Laboratory, Food Quality, and Farming Technology. You must have a high school diploma to enter these programs. Please consult the NSAC calendar for specific admission requirements.

- The University College of Cape Breton (UCCB) offers a three-year cooperative education diploma program in Environmental Studies, and a four-year Bachelor of Technology (Environmental Studies) program. Graduates of other degree or technology programs may be eligible for the two-year degree program. UCCB also offers a Bachelor of Science in Community Studies (Biodiversity).

Skills and Aptitudes

For these occupations, you should enjoy technical work and have an interest in science. A high degree of manual dexterity and mechanical ability may be necessary. You must be precise and analytical, and able to work alone or as part of a team. Good oral and written communication skills are important. Familiarity with computers is also required for some positions. Physical stamina may be needed for fieldwork.

Likely Employers

People in these technical occupations are often employed by federal or provincial government agencies, or various primary resource companies such as those in the fishing or forestry sector.

Other Considerations

About half of all workers in these occupations work full-time and for the full year. Resource conservation and environmental concerns may help to generate job opportunities for people in these occupations. People in these occupations usually work regular hours; however, irregular hours may be required to follow through on an experiment or fieldwork.

Related Occupations

Agricultural Representatives, Consultants and Specialists
Biologists and Related Scientists
Foresters
Medical Laboratory Technicians and Technologists
Other Medical Technicians and Technologists
Other Technical Inspectors and Regulatory Officers

For Further Information

Agricultural Institute of Canada
141 Laurier Ave. West, Suite 1112
Ottawa, ON K1P 5J3
email: info@aic.ca
www.aic.ca

Canadian Food Inspection Agency–Atlantic
PO Box 6088
Moncton, NB E1C 8R2
www.cfia-acia.agr.ca

Canadian Institute of Public Health Inspectors
PO Box 75264
White Rock Postal Outlet
White Rock, BC Y4B 5L4
Phone: 1-888-245-8180
www.ciphi.ca

Canadian Society for Biochemistry, Molecular and Cellular Biology
c/o Department of Biochemistry,
Dr. David Litchfield
University of Western Ontario
London, ON N6A 5C1
www.csbmcb.ca

Fisheries and Oceans Canada
Communications Branch
PO Box 5030
Moncton, NB E1C 9B6
www.mar.dfo-mpo.gc.ca

Maritime Forest Ranger School
1350 Regent St.
Fredericton, NB E3C 2G6
Phone: 1-866-619-9900
email: info@mfrs.nb.ca
www.mfrs.nb.ca

Nova Scotia Department of Natural Resources
Founders Square, 3rd Floor
1701 Hollis St.
PO Box 698
Halifax, NS B3J 2T9
www.gov.ns.ca/natr

Mapping and Related Technicians and Technologists

Labour Market Conditions

- **Estimated employment in 2002.........110**
- **Estimated change in employment between 2002 and 2007....GROWING RAPIDLY**
- **Estimated average annual number of job openings..............................10**
- **Estimated rate of unemployment in 2001 ....AVERAGE**
- **Estimated average annual earnings in 1995................................$37,000**

Typical Occupations

Aerial Survey Technician
Cartographer
Geographic Information System Technologist
Mapping Technician
Remote Sensing Technologist

Nature of the Work

Cartographers and mapping technicians interpret various sources of information, such as aerial photographs, survey notes, records, and other maps, to design and prepare topographic maps using computer-aided or traditional drafting techniques. Geographic information system (GIS) technologists use GIS technology to produce detailed maps. Aerial survey technicians and remote sensing technologists operate remote sensing equipment, such as survey cameras that produce images of large areas of the earth; develop specialized computer software; and perform data entry and editing activities to systems.

Requirements

- Technicians in this category are required to obtain a one- to two-year college program in Cartography, Remote Sensing, Geographic Information Systems, or a related area.
- To work as a technologist, you will generally need at least two years of post-secondary training in Cartography, Photogrammetry, Aerial Surveying, Remote Sensing, Geographic Information Systems, or a combination of some of these disciplines. Admission to advanced training may require a Bachelor's degree, certificate or diploma in an appropriate area of study.

Training Paths

- A Bachelor's degree program in Geography is available at Saint Mary's University. Admission requires high school completion with English 12 and an average of no less than 65%.
- The Annapolis Valley campus of the Nova Scotia Community College (NSCC) offers a number of geomatics-related programs:
    - A two-year diploma program in Cartography–Digital Mapping is offered; the entrance requirement is a high school diploma, with preference given to applicants who have courses in physical geography and computers.
    - There is a two-year diploma program in Planning–Land Information Technology; the entrance requirement is a high school diploma.
    - A one-year diploma program in Geographic Information Systems is also offered. The entrance requirement is an undergraduate degree in geography, forestry, geology, resource management , science, engineering or related technology.
    - There is also a one-year diploma program in Business Geomatics. The entrance requirement is an undergraduate university degree or a college diploma in such areas as geography, economics, business administration or tourism and hospitality management.
    - There is also a one-year diploma in Marine Geomatics; the entrance requirement is a diploma from a NSCC geomatics program or an undergraduate science degree.
    - A one-year diploma in Remote Sensing is offered. The entrance requirement is an undergraduate degree in geography, forestry, geology, resource management, science, engineering or related technology.
    - A one-year diploma in Applied Geomatics Research is also offered. The entrance requirement is a geomatics diploma from NSCC or an undergraduate degree with equivalent skills and knowledge from another post-secondary institution.

Skills and Aptitudes

For these occupations, a neat and systematic approach to projects is important. You must be accurate, precise, and efficient. The ability to work under pressure and meet deadlines may also be necessary. Good computer skills are highly recommended.

Likely Employers

Most individuals working in this field are employed by provincial government departments or professional service companies.

Other Considerations

Most people in these occupations are employed full-time and for the full year.

Related Occupations

Drafting Technicians and Technologists
Survey Technicians and Technologists
Urban and Land Use Planners

For Further Information

Canadian Cartographic Association
c/o Department of Geography
University of Calgary
Calgary, AB T2N 1N4
www.geog.ubc.ca/cca

Mathematicians, Statisticians, and Actuaries

Labour Market Conditions

Estimated employment in 2002	340
Estimated change in employment between 2002 and 2007	GROWING
Estimated average annual number of job openings	10
Estimated rate of unemployment in 2001	SIGNIFICANTLY BELOW AVERAGE
Estimated average annual earnings in 1995	$46,000

Typical Occupations

Biostatistician
Demographer
Insurance Actuary
Statistical Analyst

Nature of the Work

These individuals research and apply theories regarding mathematics, probability, statistics, and risk. Mathematicians engage in a variety of activities, ranging from the creation of new mathematical theories and techniques involving the latest technology to the solving of economic, scientific, engineering, and business problems, using mathematical knowledge and computational tools. Statisticians conduct research into the science of statistics, develop statistical methodology, and advise on the practical application of statistical methodology. Actuaries apply mathematics, probability, statistics, and risk theory to calculate risks associated with areas such as insurance, health and retirement systems, and investments. For example, they may assemble and analyze statistics to calculate probabilities of death, sickness, injury, disability, unemployment, retirement, and property loss.

Requirements

- A minimum of a Bachelor's degree in Mathematics or Statistics is required to work in the field of mathematics or statistics. Those using the title of a mathematician or statistician normally have a Master's or Ph.D. degree in either field.
- To become an actuary, you would generally need a Bachelor's degree or college diploma in Mathematics, Statistics, or Operations Research to successfully complete the actuarial professional examinations. You do not need a university degree to become an actuary; however, most actuaries have a Bachelor's degree in Mathematics, Business Administration, or Commerce.
- To use the professional title Fellow of the Canadian Institute of Actuaries, actuaries must be accredited with the Canadian Institute of Actuaries. You must complete three years of work experience and a series of exams given by the institute to become fully accredited. In completing these examinations, a candidate must choose a specialty track. The five specialty tracks are Finance, Group and Health Benefits, Individual Life and Annuity, Pension, and Investment.

Training Paths

- You must have a high school diploma to enter a Bachelor's degree program in Mathematics or Statistics, with successful completion of Pre-calculus or Advanced Mathematics. Mount Saint Vincent University may also require successful completion of a mathematics placement test to enter the math program.
- Most universities throughout the province offer a three- or four-year Bachelor of Arts or Bachelor of Science program in Mathematics. Dalhousie University offers a program in Mathematics with a concentration in Statistics.
- Dalhousie also offers Master's and Ph.D. programs in Mathematics and Statistics. Candidates will normally be expected to hold a degree recognized by Dalhousie University as the equivalent of a Bachelor's degree with honours in one of its own faculties.

Skills and Aptitudes

This work demands strong mathematical and analytical skills. You should be concise, accurate, detail-oriented, and able to develop creative solutions to new problems. Good oral and written communication skills are important. You must be capable of working on your own and meeting deadlines. Computer skills are essential.

Likely Employers

Companies providing business services to clients, insurance companies, and the federal government typically employ mathematicians, statisticians, and actuaries.

Other Considerations

The majority of workers in these occupations work full-time and for the full year.

Related Occupations

Computer Programmers and Systems Analysts
Financial Auditors and Accountants
Investment Professionals
Managers in Financial, Communications, and Other Business Services
Policy and Program Officers

For Further Information

Canadian Institute of Actuaries
360 Albert St., Suite 820
Ottawa, ON K1R 7X7
email: anik.goudie@actuaries.ca
www.actuaries.ca

Canadian Mathematical Society
577 King Edward St., Suite 109
PO Box 450, Station A
Ottawa, ON K1N 6N5
www.camel.math.ca/CMS

Mechanical Engineers

Labour Market Conditions

- **Estimated employment in 2002.........660**
- **Estimated change in employment between 2002 and 2007....GROWING RAPIDLY**
- **Estimated average annual number of job openings..............................30**
- **Estimated rate of unemployment in 2001 ..........SIGNIFICANTLY BELOW AVERAGE**
- **Estimated average annual earnings in 1995.................................$45,000**

Typical Occupations

Automotive Engineer
Energy Conservation Engineer
Fluid Mechanics Engineer
Marine Design Engineer
Refrigeration Engineer

Nature of the Work

Mechanical engineers plan and design tools, engines, machines, and other mechanical equipment. They design and develop power-producing machines such as internal combustion engines, steam and gas turbines, and jet and rocket engines. They also research, design, and develop machinery and systems for heating, ventilating and air-conditioning, processing, and manufacturing. They may be responsible for the evaluation, installation, operation, and maintenance of mechanical systems. Activities may include preparing material, cost, and timing estimates; writing reports and design specifications for machinery and systems; and investigating mechanical failures or unexpected maintenance problems. Some engineers work in an office most of the time, while others work in laboratories, industrial plants, or construction sites where they inspect, supervise, and solve on-site problems.

Requirements

Unless you are employed by the Canadian Forces, you must be registered with the Association of Professional Engineers of Nova Scotia (APENS) and have four years of relevant work experience to practise in Nova Scotia. Experience is gained by becoming involved in a mentorship program where a professional engineer would supervise your work as a trainee. During this time you must prepare diaries that will be assessed by APENS, and eventually you must pass a professional practice exam regarding engineering ethics, law and legislation. This exam may be written after gaining at least two years of direct engineering experience.

Training Paths

- To prepare for an engineering program, you must complete high school with a minimum of five Grade 12 academic courses and high marks in Grade 12 Pre-calculus Mathematics, Physics, and Chemistry.
- An Engineering degree is only available in this province through a five-year Bachelor of Engineering program at Dalhousie University. Dalhousie also offers a cooperative education option for those who choose to pursue this avenue. The first two years of an Engineering degree must be completed through an Engineering diploma program at Acadia, Dalhousie, Saint Mary's, or St. Francis Xavier universities, University of Prince Edward Island, Nova Scotia Agricultural College, or University College of Cape Breton (UCCB). The final three years of the Bachelor in Engineering degree are completed at Dalhousie University. To work in this field, you need a Bachelor of Engineering degree in Mechanical Engineering.

Skills and Aptitudes

To work in this field, you should have an interest in the design and operation of machines and mechanical processes. Persistence, good judgement, and the ability to think analytically and logically are important. You must be able to communicate and work well with others, as engineers often work in teams. Leadership and problem-solving skills are also expected. Computer experience would be helpful.

Likely Employers

Mechanical engineers are often employed by professional service firms, pulp and paper companies, and departments of the federal government.

Other Considerations

The majority of people in these occupations are employed full-time and for the full year. Workers should be prepared to keep up to date with changing technology.

Related Occupations

Deck and Engineer Officers, Water Transport
Stationary/Power Engineers
Technical Occupations in Civil, Mechanical, and Industrial Engineering

For Further Information

Association of Consulting
Engineers of Canada
130 Albert St., Suite 616
Ottawa, ON K1P 5G4
www.acec.ca

Association of Professional
Engineers of Nova Scotia
1355 Barrington St.
PO Box 129
Halifax, NS B3J 2M4
www.apens.ns.ca

The Canadian Society
for Mechanical Engineering
PO Box 23027
Westgate Postal Outlet
Cambridge, ON N1S 4Z6
www.csme.ca

Labour Market Conditions

- Estimated employment in 2002.........100
- Estimated change in employment between 2002 and 2007 ....STABLE
- Estimated average annual number of job openings 5
- Estimated rate of unemployment in 2001 ...........SIGNIFICANTLY BELOW AVERAGE
- Estimated average annual earnings in 1995..................................$59,000

Meteorologists and Other Professional Occupations in Physical Sciences

Typical Occupations

Atmospheric Physicist
Materials Scientist
Meteorologist
Soil Scientist
Weather Forecaster

Nature of the Work

Meteorologists analyze and forecast weather; provide consultation on atmospheric conditions; and conduct research into the nature and processes of weather, climate, and related issues. Activities may include analyzing and interpreting data obtained from many sources such as meteorological stations, weather satellites, and radar. Atmospheric physicists analyze the impact of industrial projects on the climate and quality of the air, and develop and test mathematical computer models of weather and climate. Metallurgists conduct studies into the properties and production of metals and alloys. Soil scientists conduct research into the composition, distribution, and erosion of soils. Materials scientists conduct research into the properties, composition, and production of materials such as ceramics and composite materials.

Requirements

- Meteorologists are generally required to have a Bachelor of Science degree and a diploma in Meteorology, or a Master of Science degree in Meteorology, Physics, Mathematics, or another related field.
- For employment as a weather forecaster with the federal government, you may also be required to complete nine to twelve months of on-the-job training in a government internship program. You should contact Environment Canada to gain more information on this program.
- A doctoral degree is usually required for employment as a research scientist in the fields of meteorology, metallurgy, soil science, and materials science.

Training Paths

- To enter a Bachelor's degree program in these areas, you require high school graduation with a strong background in mathematics and sciences.
- Dalhousie University offers a one-year diploma program in Meteorology for students who have completed a Bachelor of Science degree in Physics or a related subject. This program is offered every second year.
- A Bachelor of Science degree in Geography (Meteorology) is available at McGill University in Montreal and the University of Alberta in Edmonton.
- The Nova Scotia Agricultural College offers a four-year Bachelor's degree in Soil Science. In collaboration with Dalhousie University, it also offers a Master of Science degree in Soil Science in specialized fields such as geology, nutrient management, soil chemistry, soil fertility, and soil physics.
- Dalhousie University also offers graduate programs in Atmospheric Science, which may be taken through either the Physics or the Oceanography department.

Skills and Aptitudes

The work of these individuals is detailed and precise, and often demands close concentration for long periods of time. Good judgement, initiative, and the ability to handle stressful situations are needed. You must be able to meet deadlines and communicate effectively, both orally and in writing, to supply information to users. Computer skills would be helpful.

Likely Employers

Of the limited number of people in this field, over half are employed by the federal government, while most of the rest work within professional service companies.

Other Considerations

Most people in these occupations are employed full-time and for the full year.

Related Occupations

Announcers and Other Broadcasters
Chemists
Chemical Engineers
Other Professional Engineers
Physical Sciences Technicians and Technologists
Physicists and Astronomers

For Further Information

Canadian Meteorological and Oceanographic Society
112–150 Louis Pasteur Ave.
Ottawa, ON K1N 6N5
www.meds-sdmm.dfo-mpo.gc.ca/cmos

Environment Canada
Meteorological Service of Canada
1496 Bedford Hwy.
Bedford, NS B4A 1E5
www.msc-smc.ec.gc.ca

Labour Market Conditions

- **Estimated employment in 2002 ....1020**
- **Estimated change in employment between 2002 and 2007............GROWING**
- **Estimated average annual number of job openings..............................30**
- **Estimated rate of unemployment in 2001 ...........SIGNIFICANTLY BELOW AVERAGE**
- **Estimated average annual earnings in 1995................................$44,000**

Other Professional Engineers

Typical Occupations

Aircraft Design Engineer
Biological Engineer
Geological Engineer
Marine Architect
Metallurgical Engineer
Mining Engineer
Petroleum Engineers

Nature of the Work

In general, these occupations are involved with the design and coordination of projects related to practical applications of engineering, such as mining, mapping, oil and gas exploration, aerospace systems, agriculture, and textiles. For example, biological engineers apply engineering principles to bio-systems such as aquaculture, food, environment, and biotechnology. Aerospace engineers, for example aircraft design engineers, research, design, and develop aircraft and spacecraft, and perform duties related to the testing and evaluation of aerospace vehicles and systems.

Petroleum engineers conduct studies related to the exploration, development, and extraction of oil and gas deposits, and plan and supervise oil and gas production facilities. Geological engineers conduct studies to analyze geological and geotechnical conditions. Mining engineers design and manage mines and other large geotechnical projects. Metallurgical engineers plan and design processes for the production of metallic and non-metallic materials, and devise tests for the performance of these materials. Marine or naval architects design frames, hulls, and superstructures, and draft interiors of ships and other marine craft. They also oversee the construction and repair of ships, barges, tugs, dredges, submarines, floats, and buoys.

Requirements

Unless you are employed by the Canadian Forces, you must be registered with the Association of Professional Engineers of Nova Scotia (APENS) and have four years of relevant work experience to practise engineering in Nova Scotia. Experience is gained by becoming involved in a mentorship program where a professional engineer supervises your work. During this time you must prepare diaries that will be assessed by APENS, and eventually you must pass a professional practice exam regarding engineering ethics, law, and legislation. This exam may be written after gaining at least two years of direct engineering experience.

Training Paths

- To enter an Engineering diploma program, you must complete high school with a minimum of five Grade 12 academic courses and high marks in Grade 12 Mathematics, Physics, and Chemistry.
- An Engineering degree is only available in this province through a five-year Bachelor of Engineering program at Dalhousie University. Dalhousie also offers a cooperative education program that allows students to work for three terms under the supervision of practising engineers. The first two years of an Engineering degree must be completed through an Engineering diploma program at Acadia, Dalhousie, Saint Mary's, or St. Francis Xavier universities, University of Prince Edward Island, Nova Scotia Agricultural College, or University College of Cape Breton (UCCB).
- Dalhousie offers a cooperative education program in Mining and Metallurgical Engineering. The Mining Engineering program also offers Petroleum Engineering studies in the areas of well drilling, reservoir engineering, formation evaluation, well completion, and production.
- The department of Mechanical Engineering at Dalhousie offers programs in Naval Architecture with Master's and Ph.D. degree programs available.
- Dalhousie also offers a Bachelor's degree program in Biological Engineering with two options: Biosystems Engineering and Environmental Engineering.
- Programs in Forest and Geological Engineering are not available in this province; however, the University of New Brunswick in Fredericton offers a five-year Bachelor's degree in Geological Engineering with two work terms, as well as a one- to two-year Master's degree program in Forest Engineering.
- Dalhousie University offers a 12-month Master of Engineering in Petroleum Engineering. This degree is generally taken by graduates in an appropriate engineering field.
- The University of Toronto offers a four-year Bachelor's degree program in aerospace engineering. Students may opt to include an eighteen-month Professional Experience Year in their program.

Skills and Aptitudes

To work in these occupations, you need persistence and good judgement. The ability to think analytically and logically is important. You must be able to communicate and cooperate with others, as engineers often work in teams. Leadership and problem-solving skills are also necessary. Computer experience is an important asset.

Other Professional Engineers

Likely Employers

About half of these engineers are employed by federal government departments, while others work for firms providing business services, for water transport operations, or in the aircraft parts manufacturing sector.

Other Considerations

Most workers in these occupations work full-time and for the full year.

Related Occupations

Chemical Engineers
Chemists
Electrical and Electronics Engineers
Geologists and Oceanographers
Industrial and Manufacturing Engineers
Mechanical Engineers
Physical Sciences Technicians and Technologists
Physicists and Astronomers
Supervisors in Primary Industry

For Further Information

Association of Consulting
Engineers of Canada
130 Albert St., Suite 616
Ottawa, ON K1P 5G4
www.acec.ca

Association of Professional Engineers
of Nova Scotia
1355 Barrington St.
PO Box 129
Halifax, NS B3J 2M4
www.apens.ns.ca

Canadian Institute of Marine Engineering
1925–52nd Ave.
Lachine, QC H8T 3C3
www.cimare.org

Canadian Institute of Mining,
Metallurgy and Petroleum
Xerox Tower
1210–3400 de Maisonneuve
Blvd. Ouest
Montreal, QC H3Z 3B8
email: cim@cim.org
www.cim.org

Canadian Medical and Biological
Engineering Society
PO Box 51023
Orleans, ON K1E 3W4
email: secretariat@cmbes.ca
www.cmbes.ca

Institute for Aerospace Studies
University of Toronto
4925 Dufferin St.
Toronto, ON M3H 5T6
www.utias.utoronto.ca

Other Technical Inspectors and Regulatory Officers

Labour Market Conditions

Estimated employment in 2002	840
Estimated change in employment between 2002 and 2007	GROWING
Estimated average annual number of job openings	20
Estimated rate of unemployment in 2001	AVERAGE
Estimated average annual earnings in 1995	$41,000

Typical Occupations

Construction Inspector
Electrical Inspector
Elevator Inspector
Environmental Health Officer
Non-destructive Testers and Inspectors
Occupational Health and Safety Officials
Public Health Inspector
Radiographic Technician

Nature of the Work

These occupations include inspectors and regulatory officers in a wide variety of areas. Non-destructive testers and inspectors, such as radiographic technicians, operate testing equipment to detect defects in objects of various compositions and materials. Engineering inspectors and regulatory officers, such as elevator inspectors, inspect transportation vehicles and weighing and measuring devices, and they ensure compliance to government and industrial standards and regulations. Public health or environmental health inspectors ensure that risks to public health through food, water, and other environments are reduced or eliminated. Occupational health and safety officials investigate health and safety-related complaints, and manage workplace occupational health and safety programs. Construction inspectors inspect the construction and maintenance of new and existing structures, and monitor work-site safety. Home inspectors provide technical advice to buyers and owners of real estate.

Requirements

- Completion of a two-year college or university engineering program is usually required to become a radiographic technician or engineering inspector/regulatory officer. Trade qualifications and extensive related work experience may substitute for formal academic requirements to become an engineering inspector/ regulatory officer.
- Non-destructive testing certification by the Canadian General Standards Board is available at three levels and may be required by some employers. Industrial radiographers using radioactive materials are required to obtain an operator's licence issued by the Atomic Energy Control Board.
- A Bachelor's degree or diploma in Food Science, Environmental Studies, Chemistry, or Health and Safety is usually required for you to become an inspector in public and environmental health, or occupational health and safety.
- Public health or environmental health inspectors will be required to complete a twelve-week practicum and obtain certification with the Canadian Institute of Public Health Inspectors.
- Occupational health and safety officers may be required to register with the Board of Canadian Registered Safety Professionals.
- Although not always required, a diploma in Construction, Civil Engineering, or Architectural Technology plus several years of related work experience, or several years of experience as a qualified tradesperson in a construction trade such as plumbing, carpentry, or an electrical trade, would be beneficial for someone considering a career as a building construction inspector.
- To become a registered home inspector, you usually require completion of a training program and a required number of inspections.
- Although not required, certification by the Society of Engineering Technicians and Technologists of Nova Scotia is available for engineering technologists.

Training Paths

- Most universities across the province offer two-year Engineering diploma programs. Admission requires completion of Grade 12 with a strong background in mathematics and sciences. The Engineering diploma program at University College of Cape Breton (UCCB) includes a diploma in environmental technology.
- A four-year Bachelor of Science degree in Food Science available at Acadia University has a cooperative education option. To enter the above program you must complete high school with a minimum of 65% in Mathematics and English and an emphasis in the sciences.
- A two-year program in Chemistry Laboratory Technology and a three-year Food Quality Technology program are available at the Nova Scotia Agricultural College. To enter, you must have successfully completed high school with a minimum average of 60% in Biology, Chemistry, English, Mathematics, and one other course at the Grade 12 level.
- A number of one- and two-year certificate and diploma programs in electrical wiring, plumbing, building technology, and construction administration are available at the Nova Scotia Community College (NSCC).
- UCCB offers a three-year cooperative education diploma program in Environmental Health, and a four-year Bachelor of Technology (Environmental Health) program. Graduates of other degree or technology programs may be eligible for the two-year degree program. Graduates of this program are eligible to apply to take the national certification examinations of the Canadian Institute of Health Inspectors.
- Training leading to a certificate in Home Inspection may be available through a private career college. Please contact the Canadian Association of Home Inspectors for additional information.

Skills and Aptitudes

For these occupations, the ability to work effectively with the public under various circumstances is crucial. Good observational and analytical skills are necessary. You must be accurate and able to pay close attention to detail. Honesty and integrity are important. Excellent communication skills are also important.

Likely Employers

Individuals in this field are often employed by federal, provincial, or municipal governments.

Other Considerations

The majority of people in these occupations are employed full-time and for the full year.

Related Occupations

Contractors and Supervisors,
Trades and Related
Life Sciences Technicians
and Technologists
Physical Sciences Technicians
and Technologists

For Further Information

Board of Canadian Registered
Safety Professionals
6519 B Mississauga Rd.
Mississauga, ON L5N 1A6
email: bcrsp@sympatico.ca
www.bcrsp.ca

Canadian Association of Home Inspectors
3045 Robie St., Suite 257
Halifax, NS B3K 4P6
www.cahiatl.com

Canadian Institute of
Public Health Inspectors
PO Box 75264
White Rock Postal Outlet
White Rock, BC B4B 5L4
Phone: 1-888-245-8180
www.ciphi.ca

The Canadian Society of Safety
Engineering
39 River St.
Toronto, ON M5A 3P1
www.csse.org

Canadian Standards Association
(CSA-International)
178 Rexdale Blvd.
Toronto, ON M9W 1R3
www.csa-international.org

Society of Certified Engineering
Technicians and Technologists
of Nova Scotia
PO Box 159, D.M.P.S.
Dartmouth, NS B2Y 3Y3
www.scettns.ns.ca

Physical Sciences Technicians and Technologists

Labour Market Conditions

Estimated employment in 2002	890
Estimated change in employment between 2002 and 2007	STABLE
Estimated average annual number of job openings	10
Estimated rate of unemployment in 2001	AVERAGE
Estimated average annual earnings in 1995	$38,000

Typical Occupations

Chemical Technologist
Food Technologist
Ground-water Technologist
Meteorological Technician
Oceanographic Technician
Petroleum Engineering Technologist

Nature of the Work

These occupations specialize in the physical sciences such as Geology, Chemistry, Oceanography, and Meteorology. Duties include carrying out technical or technological functions using knowledge of scientific and mathematical principles and laboratory practices. For example, chemical engineering and petroleum engineering technicians and technologists use the principles and theories of science, engineering, and mathematics to solve problems in research and development, manufacturing, sales, construction, and customer service. Chemical technologists and technicians may provide technical support in chemical engineering and biochemical research, among other duties.

Geological technologists conduct or direct geochemical, hydrographic, or oceanographic surveys; exploratory drilling; well logging; or underground mine survey programs. They may operate and maintain equipment, and assist engineers and geologists in the evaluation and analysis of petroleum and mineral reservoirs. Meteorological technicians work in such areas as observation, data acquisition, inspection, and quality assurance. Oceanographic technicians prepare, maintain, and operate a variety of instruments; collect and process data; and write reports. The work takes place both in the lab and at sea. Some of these jobs require you to be exposed to heat, noise, vibration, fumes, and dust; other jobs are in a relatively clean laboratory environment.

Requirements

- Chemical technologists are usually required to complete a two- or three- year college program in chemical, biochemical, or chemical engineering technology or a closely related field. Chemical technicians, on the other hand, are generally only required to complete a one- or two-year college program in one of the above fields.
- Employment requirements for occupations related to geology and mineralogy vary, but may include completion of a two- to three-year college program in geological technology, petroleum technology, or petroleum or mining engineering technology.
- Oceanographic technicians are required to complete a three-year university general science program, including mathematics and computers. Additional on-the-job training is required.
- Meteorological technicians require a minimum of high school completion and a twelve-week training program provided by Environment Canada. Preference is given to those with related technical institute or university training. Data acquisition specialists require at least one year of electronics technician training.

Training Paths

- A four-year Bachelor of Science degree in Food Science available at Acadia University has a cooperative education option. To enter the above program you must complete high school with a minimum of five Grade 12 academic courses, including Pre-calculus Mathematics, English 12, and Chemistry 12.
- A two-year program in Chemistry Laboratory Technology and a three-year Food Quality Technology program are available at the Nova Scotia Agricultural College.
- The University College of Cape Breton (UCCB) offers diploma and Bachelor's programs in Environmental Technology, Environmental Health Technology, Petroleum Engineering Technology, and Chemical Technology. These programs are two to four years long and may include a cooperative education option.
- If you wish to specialize in Oceanography you may receive related training through a Bachelor of Science program at one of several universities in Nova Scotia. You must have a high school diploma to enter any courses related to these occupations.

Skills and Aptitudes

The skills and aptitudes for these occupations are as varied as the entrance requirements. You should be interested in science and technology and be able to work with detailed processes, machines, and techniques. Familiarity with computers is necessary for some positions. An aptitude for mathematics and the sciences at the high school level is important.

Likely Employers

Individuals in this field work in various business sectors. Among the most frequent employers are often federal public research agencies, educational facilities, and professional service companies.

Other Considerations

The majority of workers in these occupations work full-time and for the full year.

Related Occupations

Central Control and Process Operators
 in Manufacturing and Processing
Medical Laboratory Technicians
 and Technologists
Meteorologists and Other Professional
 Occupations in Physical Sciences
Other Technical Inspectors
 and Regulatory Officers
Survey Technicians and Technologists
Technical Occupations in Civil,
 Mechanical, and Industrial Engineering
Technical Occupations in Electronics
 and Electrical Engineering

For Further Information

Canadian Council of Technicians
and Technologists
285 McLeod St.
Ottawa, ON K2P 1A1
www.cctt.ca

Canadian Meteorological and
Oceanographic Society
112–150 Louis Pasteur Ave.
Ottawa, ON K1N 6N5
www.meds-sdmm.dfo-mpo.gc.ca/cmo

Canadian Society for Chemical
Technology
130 Slater St, Suite 550
Ottawa, ON K1P 6E2
email: gwilbee@chemist.ca
www.cheminst.ca/careers

Chemical Institute of Canada
Dept. of Chemistry
St. Francis Xavier University
PO Box 5000
Antigonish, NS B2G 2W5

Environment Canada
Meteorological Service of Canada
1496 Bedford Hwy.
Bedford, NS B4A 1E5
www.msc-smc.ec.gc.ca

Physicists and Astronomers

Labour Market Conditions

Estimated employment in 2002	20
Estimated change in employment between 2002 and 2007	STABLE
Estimated average annual number of job openings	0
Estimated rate of unemployment in 2001	AVERAGE
Estimated average annual earnings in 1995	$43,000

Typical Occupations

Astronomer
Astrophysicist
Biophysicist
Experimental Physicist
Nuclear Physicist

Nature of the Work

Physicists conduct research to learn more about natural occurrences and to develop new processes and devices in fields such as electronics, communications, power generation and distribution, aerodynamics, optics and lasers, remote sensing, and medicine and health. Research activities may include designing apparatus, conducting experiments, and analyzing results. Physicists may specialize in fields such as astronomy and space, acoustics, atomic and molecular physics, biophysics, and health physics, among many others. Astronomers may specialize in fields such as observational or optical astronomy, radio astronomy, and theoretical astrophysics. Duties of astronomers include designing and conducting observational surveys; conducting detailed analysis; developing models to learn more about celestial bodies; and building cameras, receivers, and adaptive instruments.

Requirements

- A minimum of a Master's degree in a specialized field such as Engineering Physics or Astronomy is required for these positions. To apply for a Master's degree program, you will usually require successful completion of a four-year honours Bachelor's degree program or an acceptable equivalent.
- A Doctoral degree (Ph.D.) is required to teach at colleges or universities or to conduct independent research. Admission to a Ph.D. program usually requires an honours Bachelor's degree with a minimum A- standing and completion of a two-year Master's degree with high academic standing. Applicants must have demonstrated an ability to perform advanced research.

Training Paths

- Most universities in the province offer three- and four-year Bachelor of Science programs with a major in Physics. To enter these programs you must complete high school with a minimum overall average of 65% (depending on the university) with high marks in Mathematics and Physics. Most universities also require completion of Pre-calculus Mathematics, Physics, Biology, and English at the Grade 12 level.
- Master of Science degrees are offered in Physics by Dalhousie University and St. Francis Xavier University, and in Astronomy by Saint Mary's University. A Bachelor of Science with honours in Physics is required for entrance to the Master of Science programs. Dalhousie University is the only institution in the province that grants Ph.D. degrees in Physics.

Skills and Aptitudes

To work in this field, you should be imaginative, patient, persistent, and curious. Mathematical, analytical, and mechanical abilities are essential. You must be able to conduct research, use computers, and perform complex calculations. Communication skills are also important, as scientists often work in teams.

Likely Employers

Of the limited number of physicists and astronomers in the province, about half are employed in the educational sector, while others work in hospitals or with the federal government.

Other Considerations

The majority of people in these occupations work full-time and for the full year. Although the number of job openings for physicists and astronomers is likely to remain limited, the supply of new people qualified to work in these occupations is also limited by the significant investment in education that is required.

Related Occupations

Geologists and Oceanographers
Meteorologists and Other Professional Occupations in Physical Sciences
Physical Sciences Technicians and Technologists

For Further Information

Canadian Association of Physicists
University of Ottawa
150 Louis Pasteur Ave., Suite 112
Ottawa, ON K1N 6N5
www.cap.ca

Canadian Astronomical Society
Dept. of Physics
Queens University
Kingston, ON K7L 3N6
email: casca@astro.queensu.ca
www.casca.ca

National Research Council of Canada
Herzberg Institute of Astrophysics
5071 West Saanich Rd.
Victoria, BC V9E 2E7
email susan.firestone@nrc.ca
www.hia.nrc.ca

Labour Market Conditions

Estimated employment in 2002	370
Estimated change in employment between 2002 and 2007	GROWING
Estimated average annual number of job openings	10
Estimated rate of unemployment in 2001	SIGNIFICANTLY BELOW AVERAGE
Estimated average annual earnings in 1995	$33,000

Professional Land Surveyors

Nature of the Work

Land surveyors establish legal boundaries of land, water, and air under the provisions of the Land Surveyors Act. They determine the location of boundaries, and prepare and certify legal plans and written descriptions for leases, rights-of-way, and other interests in land, water, and air. In addition to determining, marking, and preparing legal documents for boundaries, land surveyors also survey land surfaces to determine the location of physical features of boundaries; describe and locate topographic and hydrographic features of land and land covered by water; measure land areas for map-making; set alignment for construction projects; survey surface and underground features of mines; and survey sea, river, and lake beds.

Associated activities include the preparation of plans, charts, records, and documents related to the survey. Land surveyors provide consulting on legal survey issues and various projects requiring their skills, such as land developments and construction projects. Land surveyors must be up-to-date with the latest technology, including electronic total stations, global positioning equipment, and a wide variety of computers using survey, computer-aided design (CAD), and geographic information system (GIS) software.

Requirements

- A Bachelor's degree in Geodesy and Geomatics Engineering or Survey Science, or successful completion of equivalent examinations set by the Atlantic Provinces Board of Examiners for Land Surveyors (APBELS), is required.
- If you wish to become a land surveyor after completing your degree, you must pass the APBELS exams, write exams in Statute and Association Law, and then work with a licensed Nova Scotia land surveyor for up to two years.
- All licensed land surveyors must belong to the Association of Nova Scotia Land Surveyors in order to practise.

Training Paths

- A one-year diploma program in Geomatics Engineering Technology is offered at the Annapolis Valley campus of the Nova Scotia Community College (NSCC). The entrance requirement is a Survey Technician certificate from the NSCC, or equivalent. This program gives you advanced standing in the Geodesy and Geomatic Engineering Program at the University of New Brunswick (UNB) in Fredericton.
- You may, however, go directly into the four- or five-year Bachelor's degree program in Geomatics at UNB. Students who complete a Bachelor of Science degree in Engineering with a specialization in Surveying Engineering also have the option to complete a set of seven specified technical elective courses, granting them a Bachelor's degree with a Cadastral Surveying option. This option has been recognized by the Canadian Council of Land Surveyors.
- UNB also offers a one-year post-graduate diploma program in Land Information Management and a two-year program in Mapping, Charting, and Geodesy.

Skills and Aptitudes

For this type of work, you should be physically fit and enjoy working outdoors. Good health, eyesight, and manual dexterity are necessary. You must be capable of precise and detailed work, and be able to perform mathematical calculations quickly. Strong technical abilities in the use of new and emerging technologies and an aptitude for mathematics and physics at the high school level are important. A high level of communication skills is essential. You must be able to communicate both verbally and in written form on technical, legal, and business issues.

Likely Employers

The majority of surveyors work for companies that provide professional services to businesses such as architectural and engineering firms. Others are employed in the transportation sector or by provincial or municipal government departments.

Other Considerations

Most people in these occupations are employed full-time and for the full year. Work in these occupations is seasonal, with unemployment highest in the winter months. Surveyors usually work regular hours; however, they often work longer hours during the summer in order to meet their clients' deadlines.

Related Occupations

Civil Engineers
Survey Technicians and Technologists
Technical Occupations in Civil, Mechanical, and Industrial Engineering
Urban and Land Use Planners

For Further Information

Association of Canada Lands Surveyors
1390 Prince of Wales Dr., Suite 400
Ottawa, ON K2C 3N6
www.acls-aatc.ca

Association of Nova Scotia Land Surveyors
325-A Prince Albert Rd.
Dartmouth, NS B2Y 1N5
Phone: (902) 469-7962
www.ansls.ca

Canadian Council of Land Surveyors
1390 Prince of Wales Dr., Suite 400
Ottawa, ON K2C 3N6
email: exdir@ccls-ccag.ca
www.ccls-ccag.ca

Canadian Institute of Geomatics
1390 Prince of Wales Dr., Suite 400
Ottawa, ON K2C 3N6
www.cig-acsg.ca

Railway and Marine Traffic Controllers

Labour Market Conditions

Estimated employment in 2002	30
Estimated change in employment between 2002 and 2007	GROWING
Estimated average annual number of job openings	0
Estimated rate of unemployment in 2001	AVERAGE
Estimated average annual earnings in 1995	$45,000

Typical Occupations

Marine Traffic Regulator
Operations Control Officer
Train Dispatcher
Train Operator

Nature of the Work

These occupations coordinate passenger and freight train traffic, and coastal and inland marine traffic. Activities of railway traffic controllers may include operating centralized traffic control systems to coordinate railway traffic; charting train movements; calculating arrival and departure times and recording rail traffic information; and issuing orders to control the movement of passenger and freight train traffic. Activities of marine traffic controllers may include directing vessel movements; issuing clearance instructions to vessels; advising vessels of traffic volumes and weather conditions; and reporting accidents, distress signals, navigational hazards, and other emergencies to authorities.

Requirements

Both railway and marine traffic controllers are normally required to complete high school plus have several years of experience in their respective fields. Up to six weeks of classroom and on-the-job training is available for railway traffic controllers. Train dispatchers are required to achieve a Level "A" Certificate of the Canadian Rail Operating Rules. A train operator is required to obtain a Level "B" Certificate of the Canadian Rail Operating Rules.

Training Paths

Most training for these occupations is provided on the job. The Canadian Coast Guard College in Sydney offers a cross-training program in Marine Communications and Vessel Traffic Services. Entrance to the program requires a high school diploma. The program is 25 weeks long plus an on-the-job training period. You should contact the college for further details and entrance requirements.

Skills and Aptitudes

For these occupations, you need a strong sense of responsibility and the ability to perform under pressure. Attention to detail is important. You must be alert and articulate, and have excellent communication skills.

Likely Employers

About half of these controllers are employed by federal government departments responsible for rail and marine travel. Others work directly with companies involved in the rail and marine transportation industries.

Other Considerations

The majority of workers in these occupations work full-time and for the full year.

Related Occupations

Supervisors, Railway
and Motor Transportation

For Further Information

Canadian Coast Guard College
PO Box 4500
Sydney, NS B1P 6L1
www.cgc.ns.ca

Institute of Railway Technology
905 1st Ave. South, #214
Lethbridge, AB T1J 4M7
email: irt-itf@railcan.ca
www.irtcanada.net

Survey Technicians and Technologists

Labour Market Conditions

- **Estimated employment in 2002..........140**
- **Estimated change in employment between 2002 and 2007.....GROWING RAPIDLY**
- **Estimated average annual number of job openings..............................10**
- **Estimated rate of unemployment in 2001............................ABOVE AVERAGE**
- **Estimated average annual earnings in 1995..................................$36,000**

Typical Occupations

Engineering Survey Technician/Technologist
Geomatics Technician/Technologist
Land Survey Technician
Legal or Cadastral Survey Technician/Technologist
Topographic Survey Technician/Technologist

Nature of the Work

Survey technologists and technicians conduct or participate in surveys to determine the exact locations and relative positions of natural features and other structures on the earth's surface. Survey technologists conduct field surveys and operate survey instruments to measure distance, angles, and elevations; record measurements and other information obtained during field survey activities; and prepare detailed drawings, charts, and plans. Survey technicians participate in field surveys; keep records, measurements, and other survey information; and assist in the calculation, analysis, and computing of measurements obtained during field surveys.

Requirements

Survey technologists are usually required to successfully complete a two- to three-year college program in Survey Technology. A survey technician may only be required to complete a one- to two-year program in Survey Technology.

Training Paths

- A one-year certificate program in Survey Technician is offered at the Annapolis Valley campus of the Nova Scotia Community College (NSCC). The entrance requirement is a high school diploma, including Mathematics 12 or equivalent.
- Upon completion of the Survey Technician Certificate, you may take a one-year diploma program in Geomatics Engineering Technology, also offered at NSCC. You may also get advanced standing for programs with the Department of Geodesy and Geomatics Engineering at the University of New Brunswick.

Skills and Aptitudes

For this type of work, you should be physically fit and enjoy working outdoors. Good health, eyesight, and manual dexterity are necessary. You must be capable of precise and detailed work, and be able to perform mathematical calculations quickly. Strong technical abilities in the use of new and emerging technologies and an aptitude for mathematics and physics at the high school level are important. A high level of communication skills is necessary.

Likely Employers

Some individuals in this field work for established land survey or geomatics companies; others work for other professional companies such as engineering or architectural firms as well as construction or mining companies. Provincial and federal governments are also potential employers.

Other Considerations

Workers in these occupations often work for only part of the year.

Related Occupations

Civil Engineers
Mapping and Related Technicians and Technologists
Professional Land Surveyors
Technical Occupations in Civil, Mechanical, and Industrial Engineering

For Further Information

Association of Nova Scotia Land Surveyors
325A Prince Albert Rd.
Dartmouth, NS B2Y 1N5
www.ansls.ca

Technical Occupations in Civil, Mechanical, and Industrial Engineering

Labour Market Conditions

- **Estimated employment in 2002 ....1060**
- **Estimated change in employment between 2002 and 2007 ....GROWING RAPIDLY**
- **Estimated average annual number of job openings 40**
- **Estimated rate of unemployment in 2001 ....AVERAGE**
- **Estimated average annual earnings in 1995.................................$45,000**

Typical Occupations

Aeronautical Technician
Bridge Design Technician
Construction Estimator
Professional Quantity Surveyor
Pulp and Paper Manufacturing Technologist
Structural Design Technologist

Nature of the Work

Technicians and technologists in civil, mechanical, and industrial engineering provide technical support and services related to their respective fields.

For example, mechanical engineering technologists and technicians help engineers to design and develop machinery, robotics, and other equipment by making sketches and rough layouts. They also record data, compute and analyze results, and write reports.

Some mechanical engineering technologists and technicians test and inspect machines and equipment in manufacturing departments, or work with engineers to eliminate production problems. Civil engineering technologists and technicians help civil engineers plan and build highways, buildings, bridges, dams, and water treatment systems. Some also estimate construction costs and specify materials to be used.

Quantity surveyors also analyze costs and prepare estimates on civil engineering, architectural, structural, electrical, and mechanical construction projects. Industrial engineering technologists and technicians provide technical support and services in the development of production methods, facilities, and systems, and the planning, estimating, measuring, and scheduling of work.

Requirements

- For this type of work, you generally need an Engineering Technician or Technology diploma from a community college. Certification is not mandatory at this time but more employers are requiring it.
- Graduates of accredited Engineering Technology programs must complete two years of work experience to be registered as Certified Engineering Technologists and Technicians. For more information, contact the Society of Certified Engineering Technicians and Technologists of Nova Scotia (SCETTNS).
- To become a quantity surveyor, you must successfully complete high school and have a college diploma in Construction Technology or have completed the Canadian Institute of Quantity Surveyors educational program.

Training Paths

- Mechanical Engineering Technology is offered through a two-year diploma at Nova Scotia Community College (NSCC) at the Institute of Technology Campus. Admission requires high school completion with English 12, Mathematics 12, Physics 12, and Chemistry 11, or the equivalent. This program is nationally accredited by the Canadian Council of Technicians and Technologists.
- A two-year diploma in Manufacturing Engineering Technician is offered at the Institute of Technology Campus. Admission requires high school completion or equivalent with a strong interest in mathematics.
- A two-year cooperative program in Water Resources Technology is available at the Institute of Technology Campus. Admission requires a high school diploma with English 12, Mathematics 12 or Pre-technology Mathematics, Chemistry and Physics.
- The Institute of Technology Campus offers a two-year diploma program in Construction Administration Technology. Admission requires high school completion with English 12, Mathematics 12 or academic Mathematics, and Grade 11 Physics, or the Pre-Technology Certificate with Physics.
- The University College of Cape Breton (UCCB) offers diploma and Bachelor's programs in Civil Engineering Technology, Engineering Technology, and Mechanical Engineering Technology (with a Motive Power Technology option). These programs are two to four years long. Admission requires high school graduation including Mathematics 12 and completion of at least six academic Grade 11 courses, including English 11 and Mathematics 11, with Physics 11 required and Physics 12 recommended.

Skills and Aptitudes

For these occupations, you should enjoy technical work and mathematics, and have an interest in science. A high degree of manual dexterity and mechanical ability may be necessary. You must be precise, analytical, and able to work alone or as part of a team. Good oral and written communication skills are important. Familiarity with computers is also required. Physical stamina may be required for fieldwork.

Likely Employers

Individuals employed in this field are mainly found in firms that provide professional business services. They are also employed in the construction sector or with the federal government.

Other Considerations

The majority of workers in these occupations work full-time and for the full year.

Related Occupations

Architectural Technicians
  and Technologists
Contractors and Supervisors, Trades
  and Related
Drafting Technicians
  and Technologists
Industrial Designers
Other Technical Inspectors
  and Regulatory Officers
Survey Technicians and Technologists

For Further Information

Air Transport Association of Canada
255 Albert St., Suite 1100
Ottawa, ON K1P 6A9
Phone: (613) 233-7727
www.atac.ca

Canadian Institute of Quantity Surveyors
PO Box 124, Station R
Toronto, ON M4G 3Z3
email: info@ciqs.org
www.ciqs.org

Nova Scotia Association
of Quantity Surveyors
PO Box 8774
Halifax, NS B3K 5M4
email: nsaqs@ciqs.org
www.ciqs.org/nsaqs

Society of Certified Engineering
Technicians and Technologists
of Nova Scotia
PO Box 159, D.M.P.S.
Dartmouth, NS B2Y 3Y3
www.scettns.ns.ca

Labour Market Conditions

- **Estimated employment in 2002 ....3750**
- **Estimated change in employment between 2002 and 2007 ....GROWING**
- **Estimated average annual number of job openings 120**
- **Estimated rate of unemployment in 2001 ..........SIGNIFICANTLY BELOW AVERAGE**
- **Estimated average annual earnings in 1995.................................$37,000**

Technical Occupations in Electronics and Electrical Engineering

Typical Occupations

Aircraft Electrical Technician
Computer Service Technician
Electronics Design Technologist
Industrial Instrument Mechanic
Microwave Maintenance Technician

Nature of the Work

This group of occupations includes technicians, technologists, and mechanics in fields related to electrical engineering and instrumentation. Electrical and electronics engineering technologists and technicians provide technical support in the design, testing, and operation of electrical and electronic equipment and systems. Electronic service technicians service and repair household and business electronic equipment. Industrial instrument technicians and mechanics repair, maintain, adjust, and install industrial measuring and controlling instrumentation. Aircraft and avionics mechanics and technicians adjust, repair, and overhaul aircraft instruments and electrical and avionics systems on aircraft.

Requirements

- Completion of a two- or three-year college program in Electrical or Electronic Engineering Technology, Computer Engineering Technology, Telecommunications Technology, or an equivalent program is usually required for electrical or electronics engineering technologists.
- Electrical or electronics engineering technicians may only be required to obtain a one- to two-year program in a related field.
- Two- to three-year college programs in electronics, or completion of a four-year apprenticeship program in electronic servicing and repair, or completion of high school or college courses in electronics and on-the-job training are required to become an electronic service technician.
- An industrial instrument technician or mechanic would require the same number of years of experience and/or academic training in industrial instrument repair or technology.
- Aircraft electrical technicians are usually required to complete a college program in the electrical or electronics field plus several years of on-the-job training. Mechanics and technicians who authorize maintenance releases require an Aircraft Maintenance Engineer's licence issued by Transport Canada.
- Although certification is not a requirement, graduates of the Engineering Technology program must complete two years of work experience to be registered as Certified Engineering Technologists and Technicians. For more information, contact the Society of Certified Engineering Technicians and Technologists of Nova Scotia.

Training Paths

The Nova Scotia Community College (NSCC) offers a number of one and two-year programs in this field.
The two-year diploma programs are nationally accredited by the Canadian Council of Technicians and Technologists.

- A number of campuses of the NSCC offer a two-year diploma program in Electronic Engineering Technician. The admission requirement is a high school diploma with Mathematics 12 or equivalent.
- The Institute of Technology campus offers a two-year diploma Electronic Engineering Technology Program. The admission requirement is a high school diploma with English 12, Mathematics 12 or equivalent, Physics 12 and Chemistry 11.
- The Institute of Technology campus also offers a two-year diploma Electrical Engineering Technology program. The admission requirement is a high school diploma with English 12, Mathematics 12 or equivalent, Physics 12 and Chemistry 11.
- The Institute of Technology campus offers a two-year Computer Electronics Technician diploma program and the Burridge campus offers a two-year Computer Service Technician diploma program. The admission requirement to either of these programs is a high school diploma with English 12, Mathematics 12 or equivalent and Physics.
- The Marconi and Pictou campuses offer a two-year diploma Electro Mechanical Technician program. The entrance requirement is a high school diploma with Mathematics 12 or equivalent and Physics 11.
- A number of campuses offer a one-year Electrical–Construction & Industrial certificate program. The entrance requirement is a high school diploma. Graduates of this program will receive advanced standing if they enroll in the two-year Electrical–Construction & Industrial diploma program offered at the Strait Campus.

- The Marconi campus offers a one-year diploma program in Industrial Control Technician. The entrance requirement is an Electronic Mechanical/ Engineering Technician diploma or equivalent.
- The University College of Cape Breton (UCCB) offers diploma and Bachelor's degree programs in Electrical/ Electronic Technology (with options in Power, Telecommunications, and Instrumentation and Controls). These programs are two to four years long. Admission requires high school graduation with Mathematics 12 and at least six academic Grade 11 courses, including English 11 and Mathematics 11, with Physics 11 required and Physics 12 recommended.

Skills and Aptitudes

For these occupations, you should be interested in technology and discovering how things work. Good mechanical aptitude, attention to detail, and patience are necessary. You must be able to work under pressure and be able to collaborate and cooperate with others as part of a team. Effective oral and written communication skills are also important.

Likely Employers

Individuals in this field are often employed by the federal government. They also work for wholesale firms selling machinery, equipment, and supplies and for employers providing business services.

Other Considerations

Most people in these occupations are employed full-time and for the full year. Workers should be prepared to keep up to date with changing technology.

Related Occupations

Aircraft Mechanics and Inspectors
Construction Millwrights
and Industrial Mechanics
Electrical and Electronics Assemblers
Heavy-duty Equipment Mechanics
Other Technical Inspectors
and Regulatory Officers

For Further Information

Air Transport Association of Canada
255 Albert St., Suite 1100
Ottawa, ON K1P 6A9
Phone: (613) 233-7727
www.atac.ca

The Institute of Electrical Engineers
86 Main St.
PO Box 830
Dundas, ON L9H 2R1
www.ieee.org

Society of Certified Engineering
Technicians and Technologists
of Nova Scotia
PO Box 159, D.M.P.S.
Dartmouth, NS B2Y 3Y3
www.scettns.ns.ca

Labour Market Conditions

- Estimated employment in 2002 90
- Estimated change in employment between 2002 and 2007 ....STABLE
- Estimated average annual number of job openings 5
- Estimated rate of unemployment in 2001 ....BELOW AVERAGE
- Estimated average annual earnings in 1995................................$43,000

Urban and Land Use Planners

Typical Occupations

Community Planner
Environmental Planner
Municipal Planner
Park Planner
Recreation Planner

Nature of the Work

People in these occupations develop programs to provide for growth and revitalization of urban, suburban, and rural communities and their regions. Planners try to help communities meet their needs while preserving the natural processes. They develop plans and recommend policies for managing the use of land, physical facilities, and associated services for urban and rural areas. Planners help local officials make decisions on the allocation of natural resources, and propose methods to deal with social, economic, and environmental problems. Duties may involve compiling and analyzing data on demographic, economic, legal, political, cultural, sociological, physical, and other factors affecting land use. This type of work usually requires meeting with municipal, provincial, and federal authorities, civic leaders, social scientists, lawyers, land developers, and public and special interest groups to prepare and recommend plans affecting land use, public utilities, community facilities, housing, and transportation.

Requirements

- You generally need at least a Bachelor's degree in Urban or Regional Planning, Geography, Architecture, Engineering, or a related discipline to work in this field.
- A Master's degree in any of these disciplines may be preferred or required. Membership in the Canadian Institute of Planners may also be necessary.

Training Paths

- A three- to four-year Bachelor's degree in Environmental Planning is available at the Nova Scotia College of Art and Design. Saint Mary's University offers a three- or four-year degree in Geography. You must have a high school diploma to enter these programs.
- Dalhousie University offers a two-year Master of Urban and Rural Planning degree program. This program includes a cooperative education component. Admission requires a Bachelor's degree with high scholastic standing.
- Dalhousie also offers a Master of Engineering/Master of Urban and Rural Planning joint degree program. Admission requires an engineering degree with high scholastic standing.
- A Master of Applied Science/Master of Urban and Rural Planning joint degree program in Water Resources Engineering and Planning is offered at Dalhousie University. Admission requires an engineering or science degree with high scholastic standing.

Skills and Aptitudes

To work in this field, you must have good spatial perception and the ability to visualize the effects of plans and designs. Both oral and written communication skills are necessary. You should be flexible, open to different viewpoints, and able to make constructive recommendations. The ability to work well with others is important, as planners often work in teams. Computer and analytical skills would also be helpful.

Likely Employers

Many urban and land use planners are employed by local government agencies, while others work within provincial and federal government departments. Planners are also employed in equally large numbers in the private sector, usually as consultants.

Other Considerations

Most people in these occupations are employed full-time and for the full year.

Related Occupations

Architects and Landscape Architects
Managers in Public Administration
Professional Land Surveyors

For Further Information

Atlantic Planners Institute
PO Box 2012
Halifax, NS B3J 2Z1
www.atlanticplanners.org

Department of Urban and Rural Planning
Faculty of Architecture
Dalhousie University
PO Box 1000
Halifax, NS B3J 2X4
Phone: (902) 494-3260
www.dal.ca/~arch

Occupations in Art, Culture, Recreation, and Sport

Announcers and Other Broadcasters

Labour Market Conditions

Estimated employment in 2002	260
Estimated change in employment between 2002 and 2007	STABLE
Estimated average annual number of job openings	10
Estimated rate of unemployment in 2001	SIGNIFICANTLY BELOW AVERAGE
Estimated average annual earnings in 1995	$44,000

Typical Occupations

Disc Jockey
News Reader
Radio, Talk Show, or Television Host
Sports Announcer
Weather Reporter

Nature of the Work

Disc jockeys select and introduce music, videos, and other entertainment. Announcers read news, sports, commercial messages, and weather for radio and television. They may develop their own material or use material prepared by others. They may also host entertainment and information programs for broadcast. Hosts of radio or television programs introduce and interview guests, and conduct proceedings of programs such as talk shows and game shows.

Requirements

To work in the field of media, completion of a college radio or television arts program is usually required, as well as practical training such as working at a college radio station or local television cable company.

Training Paths

- A two-year diploma program in Radio and Television Arts is offered at the Kingstec Campus of the Nova Scotia Community College (NSCC). Admission requirements include a high school diploma, a submitted creative portfolio and an interview.
- A program in Radio and Television Arts is also offered at Memorial High School in Sydney Mines. Students who have completed Grade 10 may take the program in two years in conjunction with their high school academic studies, and graduates may complete the program in one year. The program is open to all Nova Scotian students, with those from the Cape Breton Regional School Board area given preference.
- A program in Media Broadcasting is available at the Atlantic Media Institute in Halifax.
- Ryerson Polytechnical Institute, Seneca College, and many other colleges in Ontario offer programs in this field. You may contact the schools for program details and admission requirements.

Skills and Aptitudes

To work in these fields, you must be comfortable expressing ideas and performing before an audience. Creativity and imagination are helpful. Clear speech is very important.

Likely Employers

Many people in these occupations are employed in the radio or television industries. Some of these individuals also find employment with companies that provide amusement and recreation services.

Other Considerations

About half of the people who work in these occupations are employed full-time and for the full year. Increased use of automation and centralized production of entertainment segments in the radio broadcasting industry will likely reduce the number of job opportunities in some of these occupations.

Related Occupations

Managers in Art, Culture, Recreation, and Sport
Meteorologists and Other Professional Occupations in Physical Sciences
Performing Artists
Writers, Editors, and Journalists

For Further Information

ACTRA Performers Guild,
Maritime Branch
1600 Hollis St., Suite 103
Halifax, NS B3J 1V7
Phone: (902) 420-1404
www.actra.ca/maritimes

Canadian Association of Broadcasters
PO Box 627, Station B
Ottawa, ON K1P 5S2
www.cab-acr.ca

Nova Scotia Department of
Tourism and Culture
Cultural Affairs Division
PO Box 456
Halifax, NS B3J 2R5
www.gov.ns.ca/dtc

Artisans, Craftspersons, and Related Occupations

Labour Market Conditions

Estimated employment in 2002	480
Estimated change in employment between 2002 and 2007	GROWING
Estimated average annual number of job openings	20
Estimated rate of unemployment in 2001	AVERAGE
Estimated average annual earnings in 1995	$13,000

Typical Occupations

Basketmaker
Glass Blower
Potter
Silversmith
Stringed Instrument Maker
Weaver

Nature of the Work

This group includes those who use manual and artistic skills to design and make handcrafted objects, both functional and decorative. Artisans and craftspeople, such as glass blowers, potters, and silversmiths, design and create objects using clay, glass, leather, wood, metal, fibre, and other materials to produce items such as dinnerware, stained glass items, leather goods and shoes, jewellery, utensils, furniture, carvings, and sewn and woven items. Often traditional tools and techniques are used.

Requirements

- There are no formal academic training requirements to work as an artisan or craftsperson. It is strongly recommended, however, that you successfully complete high school. Most skills related to this type of work are acquired on the job. Therefore, it is also recommended that you engage in an apprenticeship program under the supervision of a master craftsperson.
- It is extremely beneficial for anyone wishing to start up their own crafts business to have some basic business training, such as bookkeeping, inventory control, pricing, and marketing.

Training Paths

- The Nova Scotia College of Art and Design (NSCAD) offers a four-year Bachelor of Fine Arts degree program in Fine Art with a number of options for study, including majors in ceramics, jewellery design and metal-smithing, and textiles. Successful completion of high school is generally required.
- Craft courses are also offered through the NSCAD Department of Continuing and Distance Education, and through the Nova Scotia Centre for Craft and Design.
- Business skills training courses are available at most universities and many Nova Scotia Community College (NSCC) campuses throughout the province, as well as through centres to support entrepreneurship, and private career colleges.

Skills and Aptitudes

To work in this field, you need creativity, imagination, and artistic ability. You should be able to visualize a finished piece of work from a sketch or a brief description. Self-discipline in meeting deadlines and a good business sense are also very important. Computer design and production skills may also be important.

Likely Employers

About half of the people in this field work with various companies within the retail trade industry. Also, employment can often be found in the service or manufacturing industries. Artisans and craftspeople are often self-employed, either on a full- or part-time basis.

Other Considerations

Only about one-third of the workers in these occupations work full-time and for the full year.

Related Occupations

Carpenters and Cabinet Carpenters
Creative Designers and Technicians

For Further Information

Nova Scotia Department of
Tourism and Culture
Cultural Affairs Division
P.O. Box 456
Halifax, NS B3J 2R5
www.gov.ns.ca/dtc

Nova Scotia Designer Crafts Council
1113 Marginal Rd.
Halifax, NS B3J 3K8
www.nsdcc.ns.ca

Camera Operators, Broadcast Technicians, and Related Technical Occupations

Labour Market Conditions

Estimated employment in 2002	740
Estimated change in employment between 2002 and 2007	GROWING
Estimated average annual number of job openings	20
Estimated rate of unemployment in 2001	ABOVE AVERAGE
Estimated average annual earnings in 1995	$40,000

Typical Occupations

Broadcast Engineer
Broadcasting Production Assistant
Camera Operator
Electronic News Gathering
Lighting Technician
Projectionist
Recording Engineer

Nature of the Work

This group includes a variety of occupations related to broadcasting and to the production of motion pictures and the performing arts. Film and video camera operators operate film or video cameras to record news, live events, films, videos, and television broadcasts. Broadcast technicians operate control consoles and other broadcasting equipment to route radio and television broadcasts. Audio and video recording technicians operate equipment to record, mix, and edit sound, music, and videotape for motion pictures, television and radio programs, videos, recordings, and live events.

Requirements

- Completion of a program in Broadcasting, Audiovisual Technology, or a related field is usually required to work as film/video camera operator, broadcast technician, or projectionist.
- Projectionists in Nova Scotia are required to complete a licensed apprenticeship program. In some cases, extensive on-the-job training may substitute for formal academic requirements to work in this field.
- Completion of a program in Recording Engineering, Audiovisual Technology or a related field, or experience as a recording studio assistant, is usually required for employment as a recording technician. Recording engineers would be required to obtain further formal training and experience.
- Completion of a college program or other specialized training program in technical production for theatre is required to become a lighting technician.

Training Paths

- A two-year diploma program in Radio and Television Arts is offered at the Kingstec Campus of the Nova Scotia Community College (NSCC). Admission requirements include a high school diploma, a submitted creative portfolio and an interview.
- A program in Radio and Television Arts is also offered at Memorial High School in Sydney Mines. Students who have completed Grade 10 may take the program in two years in conjunction with their high school academic studies, and graduates may complete the program in one year. The program is open to all Nova Scotian students, with those from the Cape Breton Regional School Board area given preference.
- A program in media broadcasting is available through the Atlantic Media Institute in Halifax.
- A two-year diploma program in Screen Arts is offered at the Halifax Campus of the NSCC. Admission requirements include a high school diploma, a submitted creative portfolio and an interview.
- A one-year certificate program in Recording Arts is offered at the Shelburne Campus of the NSCC. Admission requirements include a high school diploma and a submitted creative portfolio that demonstrates aptitude in computing, music and/or film.
- Ryerson Polytechnical Institute in Toronto offers recording, film, and theatre technician/technology programs.
- Projectionist training in Nova Scotia is received on the job under the supervision of a licensed operator. Four hundred hours of training must be logged before writing the exam given by the Nova Scotia Alcohol and Gaming Authority, and you will also be asked to show your ability in a projection booth. You must be at least eighteen years of age to work in this field.

Skills and Aptitudes

To work in this field you need creativity, imagination, and technical skills. Attention to detail and the ability to improvise with equipment and techniques are also important. You must be able to communicate your ideas clearly and work well with others.

Likely Employers

Most people in these fields are employed by radio and television broadcasting companies or by firms that provide amusement, recreation, and other related services.

Other Considerations

The majority of workers in these occupations work full-time and for the full year.

Related Occupations

Announcers and Other Broadcasters
Creative Artists

For Further Information

Nova Scotia Alcohol
and Gaming Authority
P.O. Box 545
Dartmouth, NS B2Y 3Y8
www.gov.ns.ca/aga

Nova Scotia Department of
Tourism and Culture
Cultural Affairs Division
P.O. Box 456
Halifax, NS B3J 2R5
www.gov.ns.ca/dtc

Creative Artists

Labour Market Conditions

- **Estimated employment in 2002.........840**
- **Estimated change in employment between 2002 and 2007.............GROWING**
- **Estimated average annual number of job openings..............................20**
- **Estimated rate of unemployment in 2001...........SIGNIFICANTLY BELOW AVERAGE**
- **Estimated average annual earnings in 1995...............................$29,000**

Typical Occupations

Choreographer
Film Editor
Filmmaker
Music Arranger
Painter
Record Producer
Sculptor
Songwriter

Nature of the Work

This group encompasses individuals who are involved with the production of performing and visual arts, including producers, directors, and others who oversee and control the technical and artistic aspects of film, television, radio, music recording, dance, and theatre productions. Composers and songwriters compose original musical compositions. Music arrangers develop new arrangements for songs and music that have been composed by others. Choreographers create original dances, instruct performers at rehearsals, and create new interpretations of classic or traditional dances; they may also audition performers. Film editors edit motion pictures and arrange film segments into sequences to achieve continuity and desired effects. Filmmakers develop, produce, and direct short and feature-length films. Painters create drawings, paintings, and original artwork using oils, pastels, watercolour, charcoal, ink, or other materials. Sculptors create sculptures, statues, and other artwork by carving, shaping, and fabricating clay, stone, metal, or wood.

Requirements

- Producers, directors and film editors are usually required to obtain a university degree or college diploma in Performing Arts, Broadcasting, Theatre Production, or Film Studies, and have experience in a technical or production occupation in motion pictures, broadcasting, or theatre.
- Choreographers require a period of study at a school of dance, or a college diploma or university degree in dance along with extensive training with a dance company.
- Composers require creative ability and an understanding of music. Formal training in composition theory and techniques is available through university Bachelor of Music programs.
- Visual artists, such as sculptors and painters, require creative ability and must develop a portfolio of work. Formal training is available through art programs provided through universities and colleges.
- Record producers usually require a university degree or college diploma in music or the recording arts, and experience in a technical or production occupation in the recording arts.

Training Paths

- A two-year diploma program in Screen Arts is offered at the Halifax Campus of the Nova Scotia Community College (NSCC). Admission requirements include a high school diploma, a submitted creative portfolio and an interview.
- Dalhousie University and Acadia University offer three- and four-year Bachelor's degree programs in Theatre. You must have a high school diploma to enter. The University College of Cape Breton (UCCB) offers a Theatre Arts certificate program. The National Theatre School in Montreal also offers programs in Theatre.
- The Nova Scotia College of Art and Design (NSCAD) offers a four-year Bachelor of Fine Arts degree program in Fine Art and a Bachelor of Arts in Visual Arts. Successful completion of high school is generally required. The College also offers a two- to three-year Master of Fine Arts program in Fine and Media Arts, with concentrations such as Painting, Sculpture, or Video.
- Many universities throughout the province offer courses and Bachelor's programs in Music, including Dalhousie, Acadia, and St. Francis Xavier universities. Acadia University offers a Bachelor's degree in Music with concentration in Instrumental Performance, Vocal Performance, Theory–Composition, Theory–History, Eighteenth-century Studies, and Music Education.
- NSCC offers a one-year certificate program in Recording Arts at the Shelburne Campus. Admission requirements include a high school diploma and a submitted creative portfolio that demonstrates aptitude in computing, music and/or film.

Skills and Aptitudes

To work in these fields, you should be dedicated, motivated, and willing to accept constructive criticism. Talent, creativity, and technical skills are essential. You must be comfortable working with others. Self-discipline and a good business sense are also helpful.

Likely Employers

Creative artists work in a variety of different business sectors. The most likely employers are firms that provide amusement and recreational services, radio and television broadcasting companies, and other service organizations. About half of all creative artists are self-employed.

Other Considerations

While employed, the majority of workers in these occupations work full-time. Many factors can affect an individual's earnings in these occupations. Therefore, incomes will likely vary greatly throughout the year and from one year to the next. Many people find it necessary to work at other occupations to supplement their income.

Related Occupations

Artisans and Craftspersons
Camera Operators, Broadcast Technicians, and Related Technical Occupations
Performing Artists

For Further Information

Atlantic Federation of Musicians
221 Herring Cove Rd.
Halifax, NS B3P 1L3
Phone: (902) 479-3200

Atlantic Filmmakers' Co-operative
5600 Sackville St.
Halifax, NS B3J 1L2
afcoop.ns.ca

Canadian Film and Television Production Association
20 Toronto St., Suite 830
Toronto, ON M5C 2B8
www.cftpa.ca

Dance Nova Scotia
1113 Marginal Road
Halifax, NS B3H 4P7
Phone: (902) 422-1749
www.chebucto.ns.ca/culture/DANS

Music Industry Association of Nova Scotia
5516 Spring Garden Rd., Suite 201
Halifax, NS B3J 1G6
mians.ns.sympatico.ca

National Theatre School of Canada
5030 Saint-Denis
Montreal, QC H3J 2L8
www.ent-nts.com

Nova Scotia Department of Tourism and Culture
Cultural Affairs Division
P.O. Box 456
Halifax, NS B3J 2R5
www.gov.ns.ca/dtc

Society of Composers, Authors and Music Publishers of Canada
Atlantic Region
45 Alderney Dr., Queen Square, Suite 802
Dartmouth, NS B2Y 2N6
www.socan.ca

Theatre Nova Scotia
1113 Marginal Rd.
Halifax, NS B3H 4P7
www.theatrens.ca

Visual Arts Nova Scotia
1113 Marginal Rd.
Halifax, NS B3H 4P7
vans.ednet.ns.ca

Creative Designers and Technicians

Labour Market Conditions

Estimated employment in 2002	**1460**
Estimated change in employment between 2002 and 2007	**GROWING**
Estimated average annual number of job openings	**50**
Estimated rate of unemployment in 2001	**BELOW AVERAGE**
Estimated average annual earnings in 1995	**$27,000**

Typical Occupations

Costume Designer
Digital Animator
Fashion Designer
Graphic Artist/Designer
Interior Designer
Jewellery Designer
Multi Media Designer
Retail Space Planner
Set Designer
Silkscreen Technician

Nature of the Work

This group includes graphic designers, technicians, and interior designers, as well as those who produce designs for film, television, theatre, garments and textiles, displays and exhibits, and other creative items such as jewellery, toys, and trophies. Artists and graphic designers assemble illustrations and text for magazines, films, posters, advertisements, and signs. Activities may include consulting with clients; determining the best way to produce the appropriate visual effect; preparing sketches, photographs, and illustrations; estimating the costs of materials and time required to complete graphic designs and illustrations; and producing the final artwork or plans for production by supplier firms. Digital animators use a combination of computer and artistic techniques to create moving images. Interior designers produce designs for interior spaces in residential and commercial buildings. They consult with clients to determine needs; develop detailed space plans; determine and specify furniture requirements; design custom and built-in interior elements; develop decorating plans; and estimate costs and materials required. Silkscreen technicians design and transfer images to cloth using silkscreen techniques. Set designers design stage sets for film, video, and theatre productions.

Requirements

- A Bachelor's or Master's degree in Visual Arts with specialization in Graphic Arts, Commercial Art, or Photography, or completion of a college program in Visual Communications, Graphic Art, or Commercial Art, is usually required to become a graphic designer or illustrative artist. Experience as a graphic arts technician would be valuable. Professional membership in the Society of Graphic Designers of Canada is recommended.
- A university degree or college diploma in Interior Design or Architectural Design is usually necessary for employment as an interior designer. Registration with the Association of Interior Designers of Nova Scotia is recommended. To become certified, you must have a minimum of three or four years of formal academic training in Interior Design and three years of related experience. You must also successfully complete the National Council for Interior Design Qualification exams.
- A Bachelor's degree in Fine Arts or Visual Arts, or a college arts program with specialization in Theatre Design or Clothing Design, is usually necessary to become a theatre or fashion creative designer.

Training Paths

- The Annapolis Valley and Halifax campuses of the Nova Scotia Community College (NSCC) offer a one-year diploma program in graphic design. The entrance requirement is completion of the NSCC Applied Communication Arts certificate or equivalent.
- The Truro campus of the NSCC offers a two-year diploma program in Digital Animation. The entrance requirement is a high school diploma with Art 11, or demonstrated equivalency. Preference is given to applicants with Mathematics and English 12, and skill with freehand drawing as demonstrated through a portfolio.
- The Truro campus of the NSCC also offers a two-year diploma program in Interactive Technology. The entrance requirement is a high school diploma with English 12, and Computer-Related Studies. A creative portfolio is also required.
- You may also wish to check a variety of programs in areas such as multimedia, digital media, and graphic design available through private career colleges in the province.
- The Nova Scotia College of Art and Design (NSCAD) offers a four-year Bachelor of Fine Arts, with majors in Ceramics, Film, Fine Art, Jewellery Design and Metalsmithing, Media Arts, Photography and Textiles.
- NSCAD also offers a Bachelor of Design program with majors in Communication Design and Graphic Design.
- Dalhousie University offers a two-year certificate or a three-year diploma program in Costume Studies.
- Dalhousie University offers a three- to four-year Bachelor of Arts in Theatre (Scenography & Technical Scenography).
- Recognized Interior Design programs are available at several institutions, including Ryerson Polytechnical Institute and the University of Manitoba. You should contact these institutions or the Association of Interior Designers of Nova Scotia for further information.
- Many institutions in Ontario, including George Brown College, Mohawk College, Ryerson Polytechnical Institute, and Seneca College, offer programs related to fashion and fashion design. You should contact these institutions for information on programs offered.

Skills and Aptitudes

To work in this field, a natural ability to draw along with a good sense of creativity and imagination are beneficial. You should have an understanding of artistic principles and be able to visualize a finished piece of work from a sketch or brief description. Computer design and production skills are essential for the commercial occupations in this field. Self-discipline in meeting deadlines and a good business sense are also very important.

Likely Employers

Creative designers and technicians are employed in a variety of different industries. The most likely employers are advertising firms, printing and publishing businesses, and firms that provide various business services. People in these occupations may also work in design consultant firms.

Other Considerations

Many senior practitioners are self-employed. They manage their own businesses or freelance. The majority of workers in these occupations work full-time and for the full year; however, unemployment in these occupations tends to be seasonal.

Related Occupations

Artisans, Craftspersons,
and Related Occupations
Photographers

For Further Information

Association of Interior Designers
of Nova Scotia
P.O. Box 2042, Station M
Halifax, NS B3J 3B4
email: info@idns.com
www.idns.ca

Nova Scotia Department
of Tourism and Culture
Cultural Affairs Division
P.O. Box 456
Halifax, NS B3J 2R5
www.gov.ns.ca/dtc

Nova Scotia Designer Crafts Council
1113 Marginal Rd.
Halifax, NS B3H 4P7
www.nsdcc.ns.ca

Society of Graphic Designers of Canada
Atlantic Chapter
P.O. Box 1533, Halifax Station Central
Halifax, NS B3J 2Y3
www.gdc.net

Librarians, Archivists, and Conservators

Labour Market Conditions

Estimated employment in 2002	420
Estimated change in employment between 2002 and 2007	GROWING
Estimated average annual number of job openings	10
Estimated rate of unemployment in 2001	SIGNIFICANTLY BELOW AVERAGE
Estimated average annual earnings in 1995	$37,000

Typical Occupations

Archivist
Conservator
Museum Curator
Records Manager
Reference Librarian

Nature of the Work

This group is concerned with library, museum, and archival sciences. Librarians develop, organize, maintain, and promote collections or library materials. There are many different types of libraries, including public, school, university, government, and business libraries. Duties of librarians include classifying and cataloguing library materials; developing systems to access library collections; and providing specialized programs for their users. Museum curators may plan for the acquisition of museum and gallery artifacts. Curators also research, interpret, organize, and maintain collections for museums and art galleries. Conservators conserve and preserve paintings, photographs, sculptures, and other museum and art gallery artifacts. Duties of archivists include the acquisition, appraisal, preservation, arrangement, and description of archival records, and making them accessible for research.

Requirements

- A Master's degree in Library and Information Studies (MLIS) is usually required to work in the library field, although substantial experience in a library environment coupled with a Bachelor's degree may also be appropriate. Although there are no certification requirements, the MLIS degree is preferred for professional qualification as a librarian.
- Teacher-librarians are required to have a Bachelor's degree in Education and an MLIS. To teach in public schools in Nova Scotia, a Nova Scotia Teacher's Certificate is required.
- Conservators require a Master's degree in Art Conservation or completion of a three-year diploma program in Conservation Technology, and several years of experience in conservation work.
- Curators may require a Bachelor's or Master's degree in Museology (Museum Studies) or Art History, but a degree in a field related to their specific area of work is usually essential.
- Archivists in large institutions require a minimum of a Bachelor's degree in Library Science or History, preferably with a Master's degree in Archival Studies. For smaller institutions, you may only be required to have a Bachelor's degree in a related field and/or related work experience.

Training Paths

- The only accredited university program in Library and Information Studies in Nova Scotia is offered at Dalhousie University. This Master's degree program requires completion of at least a Bachelor's degree in any discipline with a minimum B average for entrance.
- The Nova Scotia College of Art and Design (NSCAD) offers a Bachelor of Arts in Visual Arts with a major in Art History. Many universities throughout the country offer degree programs in Art History at both the Bachelor's and Master's levels, such as Mount Allison University, the University of Toronto, University of British Columbia, and Queens University, to name a few.
- Dalhousie, Acadia, and Saint Mary's universities offer a three-year Bachelor of Arts and a two-year Master of Arts degree program in History.
- Bachelor's degree programs in History are also available at many other universities across the province. Completion of high school with a 60-65% minimum average is required for entrance to the Bachelor's program, and a Bachelor's degree is required for entrance to the Master of Arts program.
- Queens University in Ontario offers a Master of Arts program in Art Conservation, which would qualify you to practise as a professional conservator.
- A Master's degree in Museum Studies is offered at the University of Toronto and requires a Bachelor's degree with honours in any field for admission.
- A Master's degree in Archival Studies is available at the University of British Columbia. Also, an archives specialization is available through the Faculty of Library and Information Science at the University of Toronto and through the Faculty of History at the University of Manitoba. A Master of Archival Studies degree is available in French through Université Laval.
- A Master's degree in Museology (Museum Studies) is offered in French at Université de Montréal.
- The University College of Cape Breton (UCCB) offers a three- or four-year Bachelor of Arts in Community Studies program (offered nowhere else in Canada) with courses in art, curatorial studies, heritage studies, folklore, and Mi'kmaq studies. You may find this training appropriate to pursue some of the occupations listed above. To enter, you must have a high school diploma. You should check the university calendars to ensure programs are still being offered at the time you wish to apply.

Librarians, Archivists, and Conservators

Skills and Aptitudes

To work in this field, you need excellent administrative, research, organizational, writing, and planning skills, as well as intellectual curiosity. You should have supervisory skills and the ability to work with people of all ages, including other staff. A knowledge of computer systems, literature, and current information sources is also important. Being able to speak and write French would be an asset in some positions.

Likely Employers

Many people in this sector work in educational facilities, but others are often employed by various levels of government. Increasingly, conservators are self-employed.

Other Considerations

About half of the workers in these occupations work full-time and for the full year.

Related Occupations

Creative Designers and Technicians
Managers in Art, Culture, Recreation, and Sport
Technical Occupations in Libraries, Archives, Museums, and Galleries

For Further Information

Art Gallery of Nova Scotia
1741 Hollis St.
P.O. Box 2262
Halifax, NS B3J 3C8
www.agns.ednet.ns.ca

Association of Canadian Archivists
P.O. Box 2596, Station D
Ottawa, ON K1P 5W6
archivists.ca

Canadian Museums Association
280 Metcalfe St., Suite 400
Ottawa, ON K2P 1R7
www.museums.ca

Council of Nova Scotia Archives
6016 University Ave.
Halifax, NS B3H 1W4
Phone: (902) 424-7093
fox.nstn.ca/~cnsa

Nova Scotia Archives and Records Management
6016 University Ave.
Halifax, NS B3H 1W4
www.nsarm.ednet.ns.ca

Nova Scotia Library Association
c/o Nova Scotia Provincial Library
3770 Kempt Rd.
Halifax, NS B3K 4X8
www.library.ns.ca

Nova Scotia Museum of Natural History
1747 Summer St.
Halifax, NS B3H 3A6
museum.gov.ns.ca/mnh

Teacher Librarians Association of Nova Scotia
c/o Nova Scotia Teachers' Union
3106 Dutch Village Rd.
Halifax, NS B3L 4L7
www.instu.ns.ca/SA/TLANS/index.html.

Occupations in Public Relations and Communications

Labour Market Conditions

- **Estimated employment in 2002 ....1070**
- **Estimated change in employment between 2002 and 2007.............GROWING**
- **Estimated average annual number of job openings..............................30**
- **Estimated rate of unemployment in 2001 ....BELOW AVERAGE**
- **Estimated average annual earnings in 1995.................................$40,000**

Typical Occupations

Communications Officer
Fundraising Consultant
Media Relations Officer
Press Secretary
Public Affairs Officer
Publicity Agent

Nature of the Work

This group includes specialists in public relations and communications who develop and implement communication strategies and information programs, publicize activities and events, and maintain media relations. Activities include researching and editing material for internal and external audiences; preparing reports, speeches, brochures, press releases, or newsletters; developing workshops, meetings, and other events for publicity, fundraising, and information purposes; arranging interviews and news conferences; and acting as spokesperson for an organization. Development of presentations for film, compact disc, videotape, and slide shows is increasingly required.

Requirements

A university degree or diploma in Public Relations, Communications, Journalism, or a related discipline is usually required to work in this field. You would normally require successful completion of high school, including English 12, to enter any of the above programs. Ability in French or other language is a definite asset.

Training Paths

- Mount Saint Vincent University offers the only degree-granting program in Public Relations in Atlantic Canada. This Bachelor's degree program is four years long and has a cooperative education option. Enrollment in this program is limited and selection will be based on suitable academic background and achievement. You must have an overall average of 85%, and you will be required to submit a printed statement outlining your background, previous experience, and future aspirations in the public relations field. You should also have keyboarding skills to meet program requirements.
- The University of King's College offers a four-year Bachelor of Journalism degree for students entering after high school, and a one-year Bachelor of Journalism program for those with a previous Bachelor's degree. A three- or four-year Bachelor of Arts degree with a major in English is available at most universities in the province.
- The Halifax campus of the Nova Scotia Community College (NSCC) offers a one-year diploma program in Public Relations. The entrance requirement is a diploma or undergraduate degree, a submitted portfolio, and an interview.
- The Atlantic Media Institute offers a sixteen-month Media Broadcasting program. Admission requires good written communication skills and an interest in current affairs.
- The Canadian Association of Broadcasters offers a number of scholarships to Canadian students enrolled in a recognized communications course in Canada. You should contact the association for further requirements and application procedures.

Skills and Aptitudes

To work in this field, you must be organized and resourceful. You must have excellent oral and written communication skills. You need to have good interpersonal skills and be able to work as part of a team. Ability to meet deadlines and work under pressure is essential. Computer skills, word processing skills, and knowledge of French are strongly recommended.

Likely Employers

People in these occupations work in a wide variety of industries. Those in the fields of public relations and communications are often employed by educational facilities, federal or provincial government departments, hospitals, and companies who provide business services.

Other Considerations

About half of the workers in these occupations work full-time and for the full year.

Related Occupations

Announcers and Other Broadcasters
Managers in Arts, Culture, Recreation,
  and Sport
Professional Occupations in
  Business Services to Management
Managers in Sales, Marketing,
  and Advertising
Writers, Editors, and Journalists

For Further Information

Canadian Association of Broadcasters
P.O. Box 627, Station B
Ottawa, ON   K1P 552
www.cab-acr.ca

Canadian Public Relations Society
4195 Dundas St. West, Suite 340
Toronto, ON   M8X 1X4
www.cprs.ca

Occupations in Recreation and Sports

Labour Market Conditions

- **Estimated employment in 2002** 2730
- **Estimated change in employment between 2002 and 2007** ....GROWING
- **Estimated average annual number of job openings** 70
- **Estimated rate of unemployment in 2001** ...........SIGNIFICANTLY BELOW AVERAGE
- **Estimated average annual earnings in 1995** $22,000

Typical Occupations

Athlete
Coach
Referee
Sport/Recreation Administrator
Sport/Recreation Programmer

Nature of the Work

This group includes occupations that administer, oversee, and participate in recreation programs and sports. Athletes participate in competitive sports events on an amateur or professional basis. Coaches prepare and train individual athletes or teams for competitive events. Referees observe and enforce rules and regulations governing sporting events, athletic games, and sports competitions. Activities of sport/recreation administrators and programmers may include the administration, delivery, and design of programs; arranging advertising; negotiating contracts and sponsorships with businesses; developing and managing programs and sports facilities; and organizing participation in sports events.

Requirements

- To become an athlete, you must demonstrate your ability in a particular sport. You are required to undergo a rigorous training program, generally under the supervision of a coach. You may also be required to apply for certification with a particular sports federation.
- Coaches for individual and team sports may also be required to complete the National Coaching Certification Program.
- Sports officials are required to obtain certification by and registration with a sport governing agency or commission.
- Certification is required for certain areas of recreation instructing, such as swimming or ski instructing. To work in an administrative capacity in these occupations, you would need a Bachelor's degree in Recreation Administration, Sport Administration, or Physical Education, combined with some work experience in a related field.

Training Paths

- Dalhousie and Acadia Universities offer Bachelor's degree programs in Kinesiology or Recreation. St. Francis Xavier University offers a degree program in Human Kinetics. Dalhousie also offers a five-year dual degree program in Recreation and Management.
- The University College of Cape Breton (UCCB) offers the first year of a Bachelor of Science degree in Physical Education. This program is transferable to other universities after completion of the first year.
- A two-year diploma program in Recreation Leadership is available at the Truro campus of the Nova Scotia Community College (NSCC). The entrance requirement is a high school diploma.
- The Truro campus of the NSCC also offers a two-year diploma in Human Services, with a second year concentration in Gerontology–Recreation and Leisure. The first year of the program can be taken at a number of campuses of the NSCC. The entrance requirements are a high school diploma, 40 hours of appropriate paid or volunteer experience, and a reference from someone in the helping profession. In order to complete the work placement portion of the program, students are required to have first aid training and a Criminal Record Check.
- Master of Arts degrees in Leisure Studies, Kinesiology, and Health Education are available at Dalhousie University. An honours or four-year Bachelor's degree is generally required for admission.
- The National Coaching Certification Program is available through the Nova Scotia Sport and Recreation Commission. Volunteer work may also provide valuable experience. You should contact the appropriate department or sport governing agency for specific certification details to become a certified referee or sports official.

Skills and Aptitudes

To work in this field, you should be determined, patient, and self-confident. You must be able to organize and plan activities as well as motivate and encourage others to perform at their best. Leadership and decision-making skills may be needed in coaching and training. Both verbal and written communication skills are essential for teaching and instructing. Good physical stamina and an interest in sports and physical fitness are also advised.

Likely Employers

Individuals in this field are often employed by companies in the amusement and recreational service industry, municipal government departments, or educational facilities.

Other Considerations

Depending on the occupation, workers may work only part of the year and be unemployed in the fall and winter.

Related Occupations

Managers in Art, Culture, Recreation, and Sport
Physiotherapists
Recreation and Sports Program Officers and Consultants

For Further Information

Coaching Association of Canada
141 Laurier Ave. West, Suite 300
Ottawa, ON K1P 5J3
www.coach.ca

Nova Scotia Sport and
Recreation Commission
5516 Spring Garden Rd., 2nd Floor
Halifax, NS B3J 2V2
www.gov.ns.ca/src

Sport Nova Scotia
P.O. Box 3010 South
Halifax, NS B3J 3G6
Phone: (902) 425-5450
www.sportnovascotia.com

Labour Market Conditions

- **Estimated employment in 2002 ....1700**
- **Estimated change in employment between 2002 and 2007 ....GROWING**
- **Estimated average annual number of job openings 40**
- **Estimated rate of unemployment in 2001 ...........SIGNIFICANTLY BELOW AVERAGE**
- **Estimated average annual earnings in 1995.................................$16,000**

Performing Artists

Typical Occupations

Actor
Dancer
Model
Musician
Stunt Performer
Vocalist

Nature of the Work

This group encompasses individuals who are involved with the performing arts. Musicians and vocalists interpret music using their knowledge of voice production, musicianship, melody, and harmony. They sing and play musical arrangements as soloists or as part of an instrumental band or vocal group for audiences or for recording purposes. Vocalists and other musicians usually specialize in specific types of music such as classical, jazz, opera, or rock. Dancers, like vocalists, perform as soloists or as group members for live audiences or for television or film tapings. Actors entertain and communicate with people through their interpretation of dramatic roles. They read scripts and, through facial and verbal expression as well as body movement, create a unique personality and character. Other performers include stunt performers, who engineer and perform stunt work; and models, who display clothing and merchandise in commercials and fashion shows.

Requirements

- With many of the performing arts occupations, early and intensive training is very important. Accomplishment in these fields may depend on your talent, perseverance, and performance experience. Formal auditions are held for acceptance into orchestras, bands, dance companies, theatre companies, and the like. These are often on local, regional, national, and international levels. Stunt performers have a background and training in specialized fields, for example, martial arts, acrobatics, precision driving or pyrotechnics.
- Other performers, such as models or circus performers, may not be required to complete any formal training, although experience, talent, and perseverance in the field are strong assets. Circus performers may train in circus or movement arts. Models usually receive training through their agency, although some modeling agencies offer courses to the general public.

Training Paths

- Many universities throughout the province offer courses and Bachelor's programs in Music, including Dalhousie, Acadia, and St. Francis Xavier universities. Acadia University offers a Bachelor's degree in Music with concentration in Instrumental Performance, Vocal Performance, Theory–Composition, Theory–History, Eighteenth-century Studies, and Music Education. In addition to its degree programs in Music, St. Francis Xavier University offers a two-year diploma in Jazz Studies designed for students who wish to enter the field of commercial music and do not wish to pursue the Bachelor of Arts music degree. The university also offers honours and advanced major Bachelor's degrees with concentrations in classical and jazz music.
- For those wishing to instruct or become music teachers, Bachelor of Education degrees with a concentration in Music are also available at a few universities throughout the province.
- The Maritime Conservatory of Performing Arts offers professional and pre-professional performance training in all orchestral, keyboard, and band instruments, plus guitar and voice. A full program of studies is available in theory and history. A number of Atlantic Canada's private teachers have their students tested in the yearly winter and spring examinations which are based on Royal Conservatory of Music requirements. The yearly Calendar of Programs and Courses should be consulted for further details on programs offered and admission requirements.
- Theatrical workshops are sometimes organized by local theatre groups. Theatre Nova Scotia may be able to provide additional information. The Neptune Theatre School in Halifax offers programs for youth and adults.
- Dalhousie University and Acadia University offer three- and four-year Bachelor's degree programs in Theatre. You must have a high school diploma to enter. The University College of Cape Breton (UCCB) offers a Theatre Arts certificate program. The National Theatre School in Montreal also offers programs in theatre.
- You may contact Dance Nova Scotia (DANS) for names of dance teachers and schools in your area. Halifax Dance Association offers intensive dance training programs with Ballet, Jazz, and Modern Dance as the core disciplines. The Dance Department of the Maritime Conservatory of Music in Halifax also offers training programs in dance, including ballet, social dance, and dance-teaching. Advanced training in ballet is also available at the Coastal Dance Studio, and the Yarmouth Ballet School. Entrance to intensive training programs of these schools is generally by audition. Bachelor's degrees in Dance are available at a few Canadian universities, such as York University in Toronto and Simon Fraser University in British Columbia.

Performing Artists

Skills and Aptitudes

To work in these fields, you should be dedicated, motivated, and willing to accept constructive criticism. Talent, creativity, and technical skills are essential. You must be comfortable working with others and performing before an audience. Self-discipline and a good business sense are also helpful.

Likely Employers

Performing artists work either in the amusement and recreational service sector or with education providers.

Other Considerations

Performing artists typically work part-time and about half are self-employed.

Related Occupations

Announcers and Other Broadcasters
Creative Artists

For Further Information

ACTRA Performers Guild–
Maritimes Branch
1600 Hollis St., Suite 103
Halifax, NS B3J 1V7
Phone: (902) 420-1404
actra.ca/maritimes

Atlantic Federation of Musicians
221 Herring Cove Rd.
Halifax, NS B3P 1L3

Dance Nova Scotia
1113 Marginal Rd.
Halifax, NS B3H 4P7
Phone: (902) 422-1749
www.chebucto.ns.ca/Culture/DANS

Halifax Dance Association
The Brewery Market
PO Box 302
Halifax, NS B3J 2N7
Phone: (902)-422-2006
www.chebucto.ns.ca/Culture/HalDance

Maritime Conservatory
of Performing Arts
6199 Chebucto Rd.
Halifax, NS B3L 1K7
www3.ns.sympatico.ca/mconservatory

National Theatre School of Canada
5030 Saint-Denis
Montreal, QC H3J 2L8
www.ent-nts.qc.ca

Neptune Theatre School
1593 Argyle St.
Halifax, NS B3J 2B2
neptune.ns.sympatico.ca

Nova Scotia Choral Federation
1113 Marginal Rd.
Halifax, NS B3H 4P7
www.chebucto.ns.ca/Culture/NSCF/nscf-home.html

Nova Scotia Department
of Tourism and Culture
Cultural Affairs Division
PO Box 456
Halifax, NS B3J 2R5
www.gov.ns.ca/dtc

Theatre Nova Scotia
1113 Marginal Rd.
Halifax, NS B3H 4P7
www.theatrens.ca

Symphony Nova Scotia Society
Park Lane, Suite 301, 3rd Floor
5657 Spring Garden Rd.
Halifax, NS B3J 3R4
Phone: (902) 421-1300

Photographers

Labour Market Conditions

- Estimated employment in 2002 250
- Estimated change in employment between 2002 and 2007 .... STABLE
- Estimated average annual number of job openings 5
- Estimated rate of unemployment in 2001 .... BELOW AVERAGE
- Estimated average annual earnings in 1995 .... $27,000

Typical Occupations

Aerial Photographer
Commercial Photographer
Forensic Photographer
Photojournalist
Portrait Photographer

Nature of the Work

Photographers operate cameras to record people, events, scenes, materials, products, and other subjects on film. Activities may include studying requirements of a particular assignment and deciding on the type of camera, film, lighting, and background accessories needed; determining picture composition and making technical adjustments to equipment to photograph the subject; processing film; and retouching negatives. They may specialize in areas such as scientific photography or photojournalism.

Requirements

There are no formal academic requirements to work in this field, although completion of a Bachelor's degree in Visual Arts with a specialization in Photography, or on-the-job training supervised by a photographer, is recommended.

Training Paths

- A one-year diploma program in Photography is offered at the Halifax campus of the Nova Scotia Community College (NSCC). The entrance requirements are an Applied Communication Arts certificate, or equivalent, and a submitted portfolio. Preference is given to applicants with some formal arts training or related work experience.
- The Halifax campus also offers a one-year advanced diploma program in Photography II/Digital Imaging. The entrance requirements for this program are the Photography diploma or equivalent academic and/or work experience and a submitted portfolio.
- The Nova Scotia College of Art and Design also offers a program in Photography through a four-year Bachelor of Fine Arts degree. A high school diploma is usually required for admission.

Skills and Aptitudes

Photographers need creativity, imagination, and artistic talent. Attention to detail and the ability to improvise with equipment and techniques are also important. You must be able to react quickly in some circumstances and be very patient in others in order to get a good shot. Substantial business knowledge is required if you wish to be self-employed and work on a project-by-project basis.

Likely Employers

Many people in this field work in photographic service companies, with photographers sometimes owning their own businesses. Others are often employed in the printing and publishing industry, the retail trade sector, or educational facilities.

Other Considerations

About half of the workers in these occupations work full-time and for the full year. Many photographers are self-employed. The services they offer may be provided in a studio or on location. Earnings will depend upon the type and quality of work and will generally improve over time as the photographer's work gains recognition. Working conditions vary considerably, from regular hours in comfortable offices to irregular hours doing fieldwork.

Related Occupations

Camera Operators, Broadcast Technicians, and Related Technical Occupations
Creative Designers and Technicians

For Further Information

Maritime Professional
Photographers Association
288 Saint John St.
Bathurst, NB E2A 1E7
www.mppaphoto.com

Nova Scotia Department
of Tourism and Culture
Cultural Affairs Division
PO Box 456
Halifax, NS B3J 2R5
www.gov.ns.ca/dtc

Technical Occupations in Libraries, Archives, Museums, and Galleries

Labour Market Conditions

- **Estimated employment in 2002.........470**
- **Estimated change in employment between 2002 and 2007.............GROWING**
- **Estimated average annual number of job openings...............................10**
- **Estimated rate of unemployment in 2001............SIGNIFICANTLY ABOVE AVERAGE**
- **Estimated average annual earnings in 1995.................................$25,000**

Typical Occupations

Archival Technician
Conservation Technician
Library Technician
Museum Registrar
Museum Technician

Nature of the Work

This group of occupations is concerned with library, museum, and archival sciences. Library technicians help librarians acquire, prepare, and organize material, and assist users in finding materials and information. Some responsibilities of library technicians are also shared by archival technicians, such as assisting the public in finding books, and other materials; and cataloguing new materials. Archival technicians also help archivists acquire, preserve, and make available historical records.

Museum registrars and cataloguers classify and assign registration numbers to artifacts and specimens, work with electronic databases, and supervise inventory control. Museum technicians perform a variety of functions such as constructing, designing, and installing exhibits and displays; preserving, maintaining and storing museum/gallery collections; and framing art work. Museum technicians may also specialize in specific types of collections. Conservation technicians specialize in restoring and preserving artifacts, photographs, and documents.

Requirements

- A university degree in the social sciences or completion of a library technician program is usually required, although formal on-the-job training in this field or a related area may suffice to work as a library technician/assistant.
- There are no formal education requirements to work as a library assistant; however, work experience in this field and a Bachelor's degree are preferred.
- Registrars and cataloguers may be required to obtain a university degree in a field related to museum and gallery work.
- For those who want to work in other technical occupations related to museums and galleries, completion of a college program in museum studies or conservation technology, or other technical or on-the-job training program related to the work, is required.

Training Paths

- A two-year Library and Information Technology diploma program is offered at the Halifax campus of the Nova Scotia Community College (NSCC). Admission requires a high school diploma or the equivalent. Preference will be given to applicants with English 12, and who have had paid or volunteer library work experience.
- The University College of Cape Breton (UCCB) offers a three- or four-year Bachelor of Arts in Community Studies program.
- Programs in Museum Technology are available at Algonquin College in Ottawa and College Montmorency in Laval, Quebec (French only). Sir Sandford Fleming College in Peterborough, Ontario, offers a two-year program in Collections, Conservation and Management. Admission requires high school graduation with a minimum of English 12 and Chemistry 12.
- Algonquin College also offers a two-year Archives Technician diploma program for high school graduates, and an intensive one-year program for those with post-secondary training in a related area.
- Three- to four-year Bachelor of Social Science degree programs are available at numerous universities throughout the province.

Skills and Aptitudes

For this type of work, you should be patient and organized, and have good research skills. Both oral and written communication skills are essential. You must be able to work unsupervised with library or museum users and cooperate with co-workers. Good computer skills and knowledge about audiovisual equipment are strongly recommended. A knowledge of literature is also an asset.

Likely Employers

Most people in these fields are employed within the education sector.

Other Considerations

Only about one-quarter of the workers in these occupations are employed full-time and for the full year. Many people work part of the year and/or work part-time. Work in these occupations is often seasonal as many people become unemployed in the fall.

Related Occupations

Clerical Workers and Office Equipment Operators
Librarians, Archivists, and Conservators

For Further Information

Art Gallery of Nova Scotia
1741 Hollis St.
PO Box 2262
Halifax, NS B3J 3C8
www.agns.gov.ns.ca

Association of Canadian Archivists
PO Box 2596, Station D
Ottawa, ON K1P 5W6
aca.archives.ca

Council of Nova Scotia Archives
6016 University Ave.
Halifax, NS B3H 1W4
Phone: (902) 424-7093
www.councilofnsarchives.ca

Nova Scotia Library Association
c/o Nova Scotia Provincial Library
3770 Kempt Rd.
Halifax, NS B3K 4X8
www.library.ns.ca

Nova Scotia Museum of Natural History
1747 Summer St.
Halifax, NS B3H 3A6
museum.gov.ns.ca/mnh

Labour Market Conditions

- **Estimated employment in 2002.........210**
- **Estimated change in employment between 2002 and 2007.............GROWING**
- **Estimated average annual number of job openings..............................10**
- **Estimated rate of unemployment in 2001.................................AVERAGE**
- **Estimated average annual earnings in 1995...............................$35,000**

Translators, Terminologists, and Interpreters

Typical Occupations

American Sign Language
(ASL) English Interpreter
Court Interpreter
Foreign Languages Translator
Literary Translator
Terminologist

Nature of the Work

Translators relate written material from one language to another. They may translate correspondence, reports, and legal documents. Terminologists conduct research required to translate and interpret technical, professional, and scientific vocabulary and material. Interpreters translate oral communication, such as speeches, proceedings, and dialogue, from one language to another, or from sign language to a spoken language or vice versa. People in these occupations specialize in one or more particular languages, such as French, Russian, or Spanish, and they may also specialize in a particular technical area such as law, medicine, or insurance.

Requirements

- A university degree or a college diploma in Translation or a related discipline is required, and specialization in Interpretation, Translation, and Terminology at the Master's level may also be required. Significant training and experience in these areas may replace any formal academic requirements to work in this field.
- Sign language interpreters are required to obtain a college or other training program in sign language interpretation. After completing a program, you can take national certification examinations from the Association of Visual Language Interpreters.
- A translator's or interpreter's certificate issued by the Canadian Translators and Interpreters Council may be required. Generally, fluency in three languages is required for translators and interpreters employed by international organizations.

Training Paths

- Four- and five-year programs in written translation are available at the Université de Moncton as well as many universities in Quebec and Ontario. Laurentian University in Sudbury and the University of Ottawa offer two-year specialized programs in interpreting.
- Degree programs in French, German, and Spanish are available at many universities in Nova Scotia. Dalhousie University also offers courses in Russian.
- Université Sainte-Anne is Nova Scotia's only French-language university. It offers French immersion programs during the summer and many programs during the regular academic year.
- The Halifax Campus of the Nova Scotia Community College (NSCC) offers a two-year diploma program in American Sign Language (ASL)/English Interpretation. In year one, students focus on Deaf culture and advanced-level ASL and are introduced to the theory of interpretation. In the second year, students are introduced to the practice of interpretation. Both years include outside field experience. Completion of high school is required for admission, and university English courses are desirable. You also require completion of at least four levels of ASL instruction. Those who meet these initial requirements will be interviewed to assess their ASL and English skills and knowledge of Deaf culture. This program admits new students every second year.

Skills and Aptitudes

To become a translator, you must have a thorough knowledge of at least two languages and excellent writing skills. Translators usually translate into their native language. To work as an interpreter you should have excellent oral expression, a good memory, and the ability to concentrate well. You must also be able to think quickly and clearly. As an ASL/English interpreter, you should have physical stamina and manual dexterity.

Likely Employers

Within the small group of translators in Nova Scotia, many are interpreting in classrooms from grade primary to community college, while others provide translation services to businesses and the provincial and federal governments, either as full-time employees or as freelancers.

Other Considerations

The majority of workers in these occupations work full-time and for the full year. Job opportunities may grow as Nova Scotian businesses expand their marketing efforts to include foreign customers and require translators to communicate.

Related Occupations

College and Other Vocational Instructors
Writers, Editors, and Journalists

For Further Information

Association of Translators and
Interpreters of Nova Scotia
PO Box 372, Halifax Central
Halifax, NS B3J 2P8
www.chebucto.ns.ca/
Commerce/ATINS

Association of Visual Language
Interpreters of Canada
11337-61st Ave. NW
Edmonton, AB T6H 1M3
www.avlic.ca

Canadian Translators
and Interpreters Council
1 Nicolas St., Suite 1202
Ottawa, ON K1N 7B7
www.synapse.net/~ctic

Writers, Editors, and Journalists

Labour Market Conditions

- Estimated employment in 2002 1010
- Estimated change in employment between 2002 and 2007 ....GROWING
- Estimated average annual number of job openings 30
- Estimated rate of unemployment in 2001 ...........SIGNIFICANTLY BELOW AVERAGE
- Estimated average annual earnings in 1995.................................$36,000

Typical Occupations

Broadcast Journalist
Copy Editor
Copywriter
Novelist
Reporter
Script Editor
Technical Writer

Nature of the Work

Writers plan, research, and write books, scripts, plays, essays, speeches, manuals, specifications, and other articles for publication or presentation. For example, novelists, playwrights, script writers, and poets conceive and write novels, plays, scripts, and poetry. They may do research to establish factual content and to obtain other necessary information. Editors review, evaluate, and edit manuscripts, articles, news reports, and other material for publication or broadcast, and coordinate the activities of writers, journalists, and other staff. Copy editors read and edit copy to be published or broadcast to detect and correct errors in spelling, grammar, and sentence structure. Journalists research, investigate, interpret, and communicate news and public affairs through newspapers, television, radio, and other media. They may specialize in print or non-print media, in particular issues such as political affairs or entertainment news, or in a particular geographic area.

Requirements

- Although there are no formal academic/training requirements to become a novelist, a Bachelor of Arts degree is usually advised for this type of work.
- Technical writers usually require a university degree in the area of specialization, such as Computer Science or Engineering.
- Copywriters usually require a university degree or college diploma in areas such as English, French, and Marketing.
- A Bachelor's degree in Journalism, English, French, or a related field and several years' experience in writing, publishing, journalism, or a related field are usually required to become an editor.
- Journalists generally require a university degree or college diploma in Journalism.

Training Paths

- The University of King's College offers a four-year Bachelor of Journalism program for students entering after high school, and a one-year Bachelor of Journalism program for those with a previous Bachelor's degree.
- A three- or four-year Bachelor of Arts degree with a major in English is available at most universities in the province.
- Those training to become technical writers may find programs of specialization in Engineering Technology, Computer Science, and related areas at various campuses of the NSCC and at various universities throughout the province.

Skills and Aptitudes

For these occupations, you should be organized, resourceful, and creative. A critical mind, excellent writing ability, and language skills are also necessary. At times, writing requires patience, self-discipline, and perseverance. Editors must be tactful and able to guide and encourage others. Good typing skills and word processing skills are a definite asset. Knowledge of French is strongly recommended.

Likely Employers

Many people in these occupations are employed in the printing and publishing industry. Other writers, editors, and journalists are often employed by radio and television broadcasting organizations and various service companies. Editors are also employed throughout industry and government.

Other Considerations

The majority of workers in these occupations work full-time and for the full year. Although most of the rest are part-year workers, there are no significant seasonal patterns of unemployment in these occupations. Some people in these occupations work irregular hours including evenings and weekends.

Related Occupations

Announcers and Other Broadcasters
Managers in Art, Culture, Recreation, and Sport
Occupations in Public Relations and Communications
Translators, Terminologists, and Interpreters

For Further Information

Editors' Association of Canada /
Association canadienne des reviseurs
27 Carlton St., Suite 502
Toronto, ON M5B 1L2
Phone: 1-866-CANEDIT
www.editors.ca

Nova Scotia Department
of Tourism and Culture
Cultural Affairs Division
PO Box 456
Halifax, NS B3J 2R5
www.gov.ns.ca/dtc

Writers' Federation of Nova Scotia
1113 Marginal Rd.
Halifax, NS B3H 4P7
Phone: (902) 423-8116
www.writers.ns.ca

Occupations in Social Science, Education, Government Service, and Religion

College and Other Vocational Instructors

Labour Market Conditions

Estimated employment in 2002	**2950**
Estimated change in employment between 2002 and 2007	**GROWING**
Estimated average annual number of job openings	**180**
Estimated rate of unemployment in 2001	**SIGNIFICANTLY BELOW AVERAGE**
Estimated average annual earnings in 1995	**$42,000**

Typical Occupations

Commercial Art Instructor
Community College Teacher
Company Trainer
Computer Training Instructor
Hairdressing Teacher

Nature of the Work

This group includes instructors who teach courses at community colleges, agricultural colleges, and technical institutes, as well as trainers who are employed by companies and governments to teach internal training and development courses. Some instructors teach people who have graduated or left school for occupations that do not require a college degree, such as welder, dental hygienist, farmer, or cosmetologist. College and other vocational instructors usually specialize in particular fields of study such as visual arts or broadcasting.

Requirements

- Academic and training requirements vary according to the specific occupation; however, in general, instructors need experience in their field, a licence or certificate in fields where these usually are required for full professional status, and either teaching experience or training in instructional methods.
- To be approved by the Department of Education to work in a registered private career college, an instructor usually requires a Bachelor's degree in the subject to be taught, along with one year of work experience in the occupation to be taught; or a certificate or diploma from a community college, trade school, or private career college, or a Bachelor of Education degree, along with two years of work experience in the occupation to be taught; or a minimum of five years of work experience in the occupation to be taught.
- Instructors in apprenticeship training programs must have the appropriate trade certification and at least two years of experience at journeyperson level in the trade.
- Instructors of training courses for adults may have a degree or diploma in Adult Education, a certificate in instructional methods, or a Train the Trainer course.

Training Paths

- St. Francis Xavier University offers a six-module Diploma in Adult Education program. This is offered in major centres across Canada, including Halifax, throughout the year. Please contact the St. FX Extension Department for further information.
- A Certificate in Adult Education program and a Train the Trainer program are both available through Henson College at Dalhousie University. A Train the Trainer program is available through Acadia University's Division of Continuing and Distance Education, and may be offered by organizations and private providers.
- Mount Saint Vincent University offers both a Master of Education and a Master of Arts in Adult Education. Applicants to this program must have completed a Bachelor's degree with an overall B average.

Skills and Aptitudes

To work in this field, you should be patient, imaginative, objective and resourceful. Leadership skills and the ability to motivate students are important. You must be able to communicate ideas in a clear, concise, and interesting way. Planning and organizational skills are also necessary. Instructors must be knowledgeable about their subjects and keep informed about new material or methods of teaching.

Likely Employers

Most college instructors are employed within public and private educational facilities. However, others find employment in a variety of different fields, such as federal and provincial government departments.

Other Considerations

About half of the workers in these occupations work full-time and for the full year. Individuals in these fields generally work regular hours, although some evening work may be required.

Related Occupations

Managers in Health, Education, Social,
and Community Services
Other Instructors and Teachers
School Teachers and School Counsellors
University Professors and Assistants

For Further Information

Nova Scotia Community College
5685 Leeds St.
PO Box 1153
Halifax, NS B3J 2X1
www.nscc.ca

Nova Scotia Department of Education
Private Career Colleges
PO Box 578
Halifax, NS B3J 2S9
pcc.ednet.ns.ca

Human Services Workers

Labour Market Conditions

Estimated employment in 2002	2820
Estimated change in employment between 2002 and 2007	GROWING
Estimated average annual number of job openings	60
Estimated rate of unemployment in 2001	BELOW AVERAGE
Estimated average annual earnings in 1995	$29,000

Typical Occupations

Career Counsellor
Crisis Intervention Worker
Employment Counsellor
Group Home Worker
Mental Health Worker
Relocation Counsellor

Nature of the Work

This group includes community and social service workers and employment counsellors. Community and social service workers assess and investigate eligibility for social benefits; advise and aid recipients of social assistance and pensions; provide crisis intervention and emergency shelter services; implement community and social service programs under the supervision of social workers or health care professionals; and maintain contact with other social service agencies involved with clients to provide information and obtain feedback on clients' progress. Employment counsellors interview clients to obtain employment history, educational background, and career goals; identify barriers to employment; advise employers on human resources; assess need for assistance such as financial aid or vocational training; and monitor labour market information for clients regarding job openings, entry and skill requirements, and other occupational information.

Requirements

- Completion of a community college diploma or university degree or diploma in social work, counselling, psychology, social services, or education is usually required to gain employment in these professional occupations.
- In many cases, previous work experience or volunteer work in a social service environment, high school completion, and community college courses in Human Services are needed to work as support staff to human service workers.
- A Bachelor of Social Work (BSW) or a Master of Social Work (MSW) and membership in the Nova Scotia Association of Social Workers may be required for employment in some of these occupations.

Training Paths

- A number of campuses of the Nova Scotia Community College (NSCC) offer the first year of a two-year Human Services diploma program. Second-year concentrations include: Addictions Counselling, Child and Youth, Correctional Services, Educational Support, and Gerontology–Recreation & Leisure. The Addictions Counselling and Educational Support concentrations are offered at the Annapolis Valley campus; the Gerontology–Recreation & Leisure, Child and Youth, and Correctional Services concentrations are offered at the Truro campus. The entrance requirements to this program are a high school diploma, a minimum of 40 hours of appropriate paid/volunteer experience, and a reference from someone in the helping field. In order to complete the work placement portion of the program, students require standard first aid training and, depending on the work placement, a Criminal Record Check or Child Abuse Registry Check.
- Collège de l'Acadie offers a two-year program in Human Services.
- Many universities throughout the province offer Bachelor's degree programs in Psychology.
- A three- or four-year Bachelor of Arts program in Community Studies is offered at the University College of Cape Breton (UCCB), as well as a certificate program in Community Studies.
- The Maritime School of Social Work at Dalhousie University offers both Bachelor's and Master's programs in Social Work (BSW, MSW). To enter the three-year BSW degree program, you must have completed at least five university credits in areas other than social work, with an overall B- average. To enter the MSW degree program, you require a BSW and a minimum of two years of social work experience.
- Two-year Bachelor of Education degrees are available at Acadia, St. Francis Xavier and Mount Saint Vincent universities and Université Sainte Anne (French instruction only). You must have a Bachelor's degree in an approved subject for admission.
- Acadia University offers a Certificate in Counselling through its School of Education. This is a development course for those currently serving in counselling roles. Please contact the university for additional information.
- University College of Cape Breton offers a graduate Diploma in Education (Counselling). Please contact Extension and Community Affairs at UCCB for further information.
- Various programs are also available through private career colleges. Please contact the Private Career Colleges Section, Nova Scotia Department of Education, for information on registered private career colleges and the programs offered.

Skills and Aptitudes

To work in this field, you should have an interest in the welfare of others and a desire to help them. Patience, maturity, and good listening skills are important. You must be able to communicate clearly, both orally and in writing. Leadership, reasoning and decision-making skills are also necessary. An understanding of human nature is also important.

Human Services Workers

Likely Employers

People who work in these occupations are mainly employed by health and social service organizations such as rehabilitation clinics. Others work for federal or provincial government departments or in the education sector.

Other Considerations

About half of the workers in these occupations work full-time and for the full year.

Related Occupations

Occupations in Recreation and Sports
Other Instructors and Teachers
School Teachers, School Counsellors, and School Librarians
Social Workers, Counsellors, and Probation Officers
Specialists in Human Resources

For Further Information

Nova Scotia Department
of Community Services
PO Box 696
Halifax, NS B3J 2T7
www.gov.ns.ca/coms

Nova Scotia Department of Education
Private Career Colleges
PO Box 578
Halifax, NS B3J 2S9
pcc.ednet.ns.ca

Judges and Lawyers

Labour Market Conditions

Estimated employment in 2002	1530
Estimated change in employment between 2002 and 2007	GROWING
Estimated average annual number of job openings	70
Estimated rate of unemployment in 2001	SIGNIFICANTLY BELOW AVERAGE
Estimated average annual earnings in 1995	$72,000

Typical Occupations

Corporate Counsel
Criminal Lawyer
Family Court Judge
General Counsel
Supreme Court Justice

Nature of the Work

Lawyers act as both advocates and advisors in society. As advocates, they represent one of the opposing parties in criminal and civil trials by presenting evidence that supports their client in court. As advisors, they advise clients on legal matters; counsel their clients as to their legal rights and obligations; and suggest particular courses of action in business and personal matters. In general, lawyers plead cases or conduct prosecutions in courts of law; negotiate contracts with other parties on behalf of their clients; and draw up legal documents such as contracts and wills. Lawyers may specialize in specific areas of law such as criminal law, corporate law, commercial law, real estate law, family and estate law, and labour law.

Judges preside in a courtroom and must be very familiar with all aspects of the law because they apply the law. They oversee the legal process that, in courts of law, resolves civil disputes and determines guilt in criminal cases according to federal and provincial laws and those of local jurisdictions. They preside over cases related to virtually every aspect of society, from traffic offences to questions of disconnecting life support equipment for terminally ill persons. They must ensure that trials and hearings are conducted fairly and in a manner that safeguards the legal rights of all parties involved. They listen to the evidence presented by both sides, read and study any information submitted to them before, during and after the Court hearing; sometimes conduct their own independent research to be satisfied with the interpretation of the applicable law relating to that subject matter; and then give a decision which is consistent with previous decisions of the Courts of Nova Scotia or the Supreme Court of Canada.

Requirements

- To become a lawyer in Nova Scotia, you must successfully complete a Bachelor's degree in Law (LL.B.). After graduating with an LL.B., you must complete a full year of articling with a law firm. Within that year, you must complete a seven-week course during which you would learn a variety of lawyering skills. At the end of that year, you must pass the bar exam.
- To become a judge, you must have extensive experience as a lawyer or as a professor of law. Ten or more years of experience at the bar would qualify you to become a judge.

Training Paths

In Nova Scotia, a Bachelor's degree in Law is only available at Dalhousie University. Dalhousie University offers a three-year law program which requires you to have at least two years of a Bachelor's degree and an acceptable score on the Law School Admissions Test (LSAT) to enter the program. Law schools in general refer to the articling year as the fourth year of a law program that is required before graduates are able to practise as licensed lawyers. A four-year combined Bachelor of Laws/Master's in Business Administration or Public Administration is also offered. You must have at least a Bachelor's degree to enter the combined programs.

Skills and Aptitudes

To work in this field you should enjoy challenge and competition. Office-style work requires a high degree of accuracy and concentration. Excellent oral communication skills are important for courtroom-style work. You must be convincing, concise, able to think quickly under pressure, and able to express your ideas clearly. You should have a strong command of language and the ability to think logically and analytically. Patience, tact, and an understanding of human nature would be helpful in dealing with the public.

Likely Employers

Most lawyers work independently providing professional business services to individuals, groups, and businesses. These individuals are employed frequently by federal and provincial government departments as well as large corporations.

Other Considerations

Most people in these occupations, often self-employed, are employed full-time and for the full year. Many lawyers work fairly regular hours, but this is usually confined to lawyers who are employed by government offices or corporations. Lawyers in private practice, for the most part, work longer and fairly irregular hours. Most of the work of lawyers is done in offices or law libraries. Judges tend to work fairly regular business hours.

Related Occupations

Administrative Officers–Government
Paralegals

For Further Information

Nova Scotia Barristers' Society
Centennial Building, Suite 1101
1645 Granville St.
Halifax, NS B3J 1X3
www.nsbs.ns.ca

Labour Market Conditions

Estimated employment in 2002	1030
Estimated change in employment between 2002 and 2007	GROWING
Estimated average annual number of job openings	40
Estimated rate of unemployment in 2001	SIGNIFICANTLY BELOW AVERAGE
Estimated average annual earnings in 1995	$28,000

Occupations in Religion

Typical Occupations

Chaplain
Deacon
Minister
Nun/Brother
Pastoral Counsellor
Priest/Rabbi

Nature of the Work

Individuals in these occupations administer the rites of a religious faith or denomination. They provide motivation, leadership, religious training, and spiritual or moral guidance, and perform other functions associated with the practice of a religion. Responsibilities may include preparing and conducting public worship services; administering sacraments; supervising and conducting religious teaching; administering the financial operation of a religious community; participating in humanitarian endeavours; and performing other related duties. They perform these duties in churches, synagogues, temples, or other places of worship. Support and counselling services are also provided at healthcare facilities, community-based centres, pastoral counselling centres, and correctional centres.

Occupations within this category also include brothers, nuns, monks, religious education workers, pastoral specialists, and others who provide support to ministers of religion. Their activities include assisting at services of public worship and religious rites; providing religious education, spiritual guidance, and moral support to members of a religious community; and administering programs providing food, clothing, and shelter.

Requirements

- Educational requirements vary depending on the religion. A term of practical experience with a senior Minister is usually required for this group. In general, it is recommended that you have a Bachelor's degree in Arts, Theology, or Religious Studies and/or a Master's degree in Theology, Divinity, or Religious Studies.
- The Canadian Association for Pastoral Practice and Education is an interfaith organization that certifies Pastoral Specialists in pastoral care or pastoral counselling. In addition to ordination and the minimum educational requirement, pastoral and professional experience and 2000 hours of on-the-job training are required for certification.

Training Paths

- Three- and four-year Bachelor's degree programs are available at numerous universities throughout the province. To enter, you must have a high school diploma, generally with an overall average of at least 60%.
- The Atlantic School of Theology offers a Master of Divinity degree program. The program provides for specialization in Ministry with the Aging. The program can be developed to provide specialization in an area of particular interest to the applicant. Other programs offered are a Master of Theological Studies and a Master of Theology. To enter, a Bachelor's degree is required.
- Acadia Divinity College offers a Master of Divinity degree program. This program allows specialization in Pastoral Ministry, Christian Education, and Youth Ministry. The College also offers a Master of Arts (Theology) degree in Biblical Studies and Church History/Theology. You must have a Bachelor of Arts degree to enter these programs. The Doctor of Ministry degree program at Acadia Divinity College is also a post-graduate degree, but you must have a Master of Divinity and some church experience to be eligible to enter this program.

Skills and Aptitudes

To work in this field you should be sensitive, reliable, discreet, and interested in serving the needs of others. Patience, self-discipline, and emotional stability are also important. You must be able to communicate clearly, both orally and in writing. Leadership and organizational skills are necessary. An understanding of human nature and the behavioural sciences is essential for counselling.

Likely Employers

Almost all people who enter this field are employed by religious organizations; however, a small number work in education facilities, hospitals, and various social service agencies.

Other Considerations

The majority of workers in these occupations work full-time and for the full year. People in these occupations may work long and irregular hours in administrative, educational, and community service activities.

Related Occupations

School Teachers, School Counsellors, and School Librarians
Social Workers, Counsellors, and Probation Officers

For Further Information

Atlantic School of Theology
The Registrar
640 Franklyn St.
Halifax, NS B3H 3B5
astheology.ns.ca

Canadian Association for Pastoral Practice and Education
47 Queens Park Cres. East
Toronto, ON M5S 2C3
www.cappe.org

Labour Market Conditions

- **Estimated employment in 2002** 1330
- **Estimated change in employment between 2002 and 2007** ....STABLE
- **Estimated average annual number of job openings**..............................10
- **Estimated rate of unemployment in 2001** ..........SIGNIFICANTLY BELOW AVERAGE
- **Estimated average annual earnings in 1995**................................$27,000

Other Instructors and Teachers

Typical Occupations

American Sign Language (ASL) Instructor
Driver Training Instructor
Motorcycle Driving Instructor
Rehabilitation Instructor
Teacher of the Blind
Training Officer

Nature of the Work

This group includes instructors who teach courses that are outside of educational institutions and not job-related, as well as those who teach communication and rehabilitation skills to physically or mentally disabled individuals. For example, driving instructors teach proper motor vehicle driving skills and traffic regulations to individuals, while sewing instructors teach students techniques of sewing, tailoring, and dressmaking. Instructors and teachers of disabled persons may teach reading and writing braille and sign language, or may assist individuals with physical or mental disabilities to develop life skills. Training officers can specialize in particular areas.

Requirements

- A Bachelor's degree in Education or a related field, such as Psychology or Social Work, may be required for employment of instructors and teachers of persons with disabilities. Completion of appropriate training programs in rehabilitation or special education may also be required. Teachers who work with disabled persons in a public school would be required to obtain a Nova Scotia Teacher's Certificate.
- Other instructors, such as driving instructors or sewing instructors, must demonstrate their abilities in their field to gain employment. Driving instructors require licensing from the Registry of Motor Vehicles. Sign language instructors are required to be fluent in American Sign Language (ASL); the majority of instructors are deaf.

Training Paths

- There are generally no formal training paths for instructors who work outside of educational institutions. To work in these occupations you must demonstrate your expertise in the field of instruction.
- Instructors and teachers who work with persons with disabilities may pursue degrees in Psychology at numerous universities throughout the province. Two-year Bachelor of Education degrees are available at Université Sainte Anne (French instruction only), Acadia, St. Francis Xavier and Mount Saint Vincent universities.
- The Maritime School of Social Work at Dalhousie University is well-known for its Bachelor's and Master's degree programs in Social Work.
- Mohawk College, in Ontario, offers a one-year Visually Impaired–Rehabilitation Instructor program. Graduates of this program become rehabilitation teachers who can assist blind and visually impaired persons to develop or enhance their independent living skills. A one-year program, Orientation and Mobility Instructor, is also taught at Mohawk College. The program's graduates can effectively teach blind and visually impaired persons to move more safely, efficiently, and independently through their everyday environments. Both of these programs have a supervised ten-week clinical fieldwork placement with a qualified and experienced teacher. A college diploma or university degree, preferably in the humanities, Arts or Education, is required for both programs.
- The University of British Columbia also offers a one-year diploma program to prepare teachers to work with blind and visually impaired children.
- The Halifax Campus of the Nova Scotia Community College (NSCC) offers a two-year diploma program in American Sign Language (ASL)/English Interpretation. In year one, students focus on Deaf culture and advanced-level ASL and are introduced to the theory of interpretation. In the second year, students are introduced to the practice of interpretation. Both years include outside field experience. Together, the two years' intense study prepares graduates for entry-level interpreter positions. Completion of high school is required for admission, and university English courses are desirable. You also require completion of at least four levels of ASL instruction. Those who meet these initial requirements will be interviewed to assess their ASL and English skills and knowledge of Deaf culture. This program admits new students every second year.
- A number of campuses of the NSCC offer the first year of a two-year Human Services diploma program. A second-year concentration in Educational Support is offered at the Annapolis Valley campus. The entrance requirements to this program are a high school diploma, a minimum of 40 hours of appropriate paid/volunteer experience, and a reference from someone in the helping field. In order to complete the work placement portion of the program, students require standard first aid training and, depending on the work placement, a Criminal Record Check or Child Abuse Registry Check.

Skills and Aptitudes

To work in this field, you should be patient, imaginative, objective, and resourceful. Leadership skills and the ability to motivate students are important. You must be able to communicate ideas in a clear, concise, and interesting way. Planning and organizational skills are also necessary. Instructors must be knowledgeable about their subjects and keep informed of new material or methods of teaching.

Likely Employers

The majority of people in these occupations work within various educational facilities. Also, employment is often found in provincial government departments as well as health and social services agencies.

Other Considerations

Only about one-third of workers in these occupations work full-time and for the full year.

Related Occupations

Childhood Educators
College and Other Vocational Instructors
School Teachers, School Counsellors, and School Librarians
Translators, Terminologists, and Interpreters

For Further Information

Association of Visual Language Interpreters of Canada
11337–61st Ave.
Edmonton, AB T6H 1M3
www.avlic.ca

The Canadian National Institute for the Blind
Nova Scotia–Prince Edward Island Division
6136 Almon St.
Halifax, NS B3K 1T8
www.cnib.ca

Service Nova Scotia and Municipal Relations
Registry of Motor Vehicles
6960 Mumford Rd., West End Mall
PO Box 1652
Halifax, NS B3J 2Z3
www.gov.ns.ca/snmr

Paralegals

Labour Market Conditions

- **Estimated employment in 2002**.........710
- **Estimated change in employment between 2002 and 2007**....GROWING RAPIDLY
- **Estimated average annual number of job openings**..............................20
- **Estimated rate of unemployment in 2001**...........SIGNIFICANTLY BELOW AVERAGE
- **Estimated average annual earnings in 1995**................................$28,000

Typical Occupations

Law Clerk
Legal Assistant
Legal Researcher
Notary Public
Trademark Agent

Nature of the Work

People who work in this group of occupations assist members of the legal profession or act as officers of the court. Legal assistants and paralegals in law firms assist lawyers in preparing legal documents, maintaining records and files, interviewing clients and witnesses, and conducting research. Independent paralegals provide certain legal services to the public, such as representing clients in small claims court, and advising clients and taking legal action on landlord and tenant matters, traffic violations, and name changes. Notaries public prepare promissory notes, wills, mortgages and other legal documents. Trademark agents research and prepare trademark applications.

Requirements

- It is recommended that you supplement on-the-job experience as a paralegal or legal assistant with a certificate or diploma in office/business administration, a Bachelor's degree in Law, or a diploma in a paralegal program. In-house training from a law firm or other legal establishment may supplement or, in some cases, replace academic requirements.
- Notaries public require a provincial licence, which may be obtained through the Department of Justice. To become a notary public, you must also be an insured and practising member of the Bar.
- Trademark agents require two years of in-house training under the supervision of a registered trademark agent. This is supplemented by a tutorial program organized by the Canadian Intellectual Property Office, with successful completion of the required exam.

Training Paths

- The University College of Cape Breton (UCCB) offers a three-year co-operative education diploma program in Business Technology with a major in Paralegal Technology. This university also offers a two-year diploma program in Office Administration Technology. To be admitted you require high school graduation with five Grade 12 courses, including English 12 and Mathematics 12.
- A two-year Paralegal Services diploma program is offered at the Cumberland and Akerley campuses of the Nova Scotia Community College (NSCC). The campuses offer admission to this program in alternating years. You must have successfully completed high school with Grade 12 English to enter this program.
- Paralegal programs are also available through a number of private career colleges. Please contact the Private Career Colleges Section, Nova Scotia Department of Education, for information on registered private career colleges and programs.

Skills and Aptitudes

For this type of work, you should be interested in the legal profession. Accuracy and the ability to understand and follow instructions are important. You must be tactful and have good interpersonal skills for dealing with clients. Excellent oral and written communication skills are also necessary.

Likely Employers

Most paralegals are employed by law firms and other companies offering professional services. Others are employed by provincial and municipal governments within legal departments.

Other Considerations

About half of the workers in these occupations work full-time and for the full year.

Related Occupations

Judges and Lawyers
Secretaries, Recorders, and Transcriptionists

For Further Information

Canadian Association of Legal Assistants
PO Box 967 Station B
Montreal, QC H3B 3K5
www.cala-acaj.com

The Canadian Intellectual Property Office
Industry Canada
Place du Portage 1
50 Victoria St., 2nd Floor
Hull, QC K1A 0C9
cipo.gc.ca

Nova Scotia Department of Education
Private Career Colleges
PO Box 578
Halifax, NS B3J 2S9
pcc.ednet.ns.ca

Policy and Program Officers

Labour Market Conditions

- **Estimated employment in 2002 ....2610**
- **Estimated change in employment between 2002 and 2007 ....GROWING**
- **Estimated average annual number of job openings 190**
- **Estimated rate of unemployment in 2001 ....AVERAGE**
- **Estimated average annual earnings in 1995................................$43,000**

Typical Occupations

Economist
Education Consultant
Fisheries Analyst
Health Promotion Specialist
Human Rights Officer
Market Researcher
Protocol Officer
Social Policy Researcher

Nature of the Work

This group includes individuals who provide consultation and advice to government and business related to natural and applied sciences, economic behaviour and patterns, business, social and health policy, education, government, and social sciences. Activities may include conducting research; developing policies and administering programs; and providing consulting services in a wide variety of areas. Social policy researchers develop social programs, social legislation, or proposals based on demographic, social, and economic analysis and the evaluation of pilot projects. Science policy researchers conduct research and advise on policies or develop or administer programs related to transportation, communications, natural resources, agriculture, the environment, energy, land use, and other scientific fields.

Requirements

- A Bachelor's degree is a minimum requirement for most occupations in this group.
- A Bachelor's degree in a natural or applied science or related discipline would be required for employment as a fisheries analyst.
- A Bachelor's degree in Economics would be required for work as an economic research assistant. A Master's degree is usually required to work as an economist.
- To work as a market researcher, you would be required to have a degree in Commerce, Business Administration, Economics, or Public Administration.
- To work as a human rights officer, you would need a Bachelor's degree or diploma in a social science discipline or Business Administration.
- A Bachelor's degree or diploma in Health Science, Public Administration, or Hospital Administration or a Bachelor's degree in a social science is required for employment as a healthcare planner.

Training Paths

- Bachelor's degrees and diploma programs in the areas of Economics, Commerce, Business Administration, Health Sciences, Social Sciences, or a scientific, technical or related discipline are available at numerous universities and community college campuses throughout the province.
- Dalhousie University offers a two-year Master's degree in Public Administration. To enter, you must have a Bachelor's degree.
- Dalhousie University also offers a two-year Master's degree in Health Services Administration. The program is designed to prepare individuals for work in administration in a variety of health-related areas. To enter, you must have a Bachelor's degree.

Skills and Aptitudes

To work in these fields, you should be organized, resourceful, and able to co-operate with others in a team. You must be able to communicate clearly, both orally and in writing. You will need an interest in research and familiarity with computers. Advanced computer and technical skills for data manipulation and statistical analysis may be required in some positions.

Likely Employers

Policy and program officers are employed in a variety of sectors. These people often work in government departments or educational facilities, and with health and social service providers. They also work for companies that provide various business services.

Other Considerations

About half of the workers in these occupations work full-time and for the full year. Many of the jobs in these occupations rely upon government funding. Therefore, changes in government spending levels will affect job opportunities for policy and program officers.

Related Occupations

Administrative Officers–Government
Biologists and Related Scientists
Investment Professionals
Managers in Health, Education, Social, and Community Services
Managers in Public Administration
Managers in Sales, Marketing, and Advertising
University Professors and Assistants
Urban and Land Use Planners

For Further Information

Atlantic Provinces Economic Council
5121 Sackville St., Suite 500
Halifax, NS B3J 1K1
email: info@apec-econ.ca
www.apec-econ.ca

Institute of Public Administration of Canada
1075 Bay St., Suite 401
Toronto, ON M5S 2B1
www.ipaciapc.ca

Public Service Commission of Canada
Nova Scotia District Office
1557 Hollis St.
PO Box 1664
Halifax, NS B3J 3V3
www.psc-cfp.gc.ca

Labour Market Conditions

- **Estimated employment in 2002** 310
- **Estimated change in employment between 2002 and 2007** ....GROWING
- **Estimated average annual number of job openings** 20
- **Estimated rate of unemployment in 2001** ...........SIGNIFICANTLY BELOW AVERAGE
- **Estimated average annual earnings in 1995** $50,000

Psychologists

Typical Occupations

Clinical Psychologist
Counselling Psychologist
Experimental Psychologist
Industrial/Organizational Psychologist
School Psychologist

Nature of the Work

Psychology includes the practice of examining the behaviour of children and adults; diagnosing psychological and emotional disorders; providing consultation and therapy; counselling individuals, groups, and organizations to enhance physical and mental health and to achieve more effective personal, social, and vocational development and adjustment; teaching and applying psychological theory and principles regarding behaviour and mental processes such as learning, memory, perception, and human development; and designing, conducting, and communicating the results of psychological research.

Clinical psychologists interview patients; give diagnostic tests; provide individual, family and group psychotherapy; and design and implement programs to modify behaviour. Counselling psychologists provide treatment to improve physical and mental health. School psychologists work with students, teachers, parents, and administrators to resolve students' learning and behaviour problems. Experimental psychologists investigate aspects of human and animal activity to understand and explain behaviour. Industrial/organizational psychologists focus on personnel selection, job satisfaction, and workplace performance.

Requirements

- You must be registered with the Nova Scotia Board of Examiners in Psychology as a Candidate or Psychologist to be eligible to practise in Nova Scotia.
- To register as a Psychologist, you need a Master's degree in Psychology with six years of supervised experience, or a Ph.D. in Psychology and two years of supervised experience. Initially you can be accepted on the Candidate Register, and you are then eligible to practise psychology, but you must meet certain conditions, including completing supervised work experience and written and oral examinations, before you are transferred to the Register of Psychologists.
- University faculty and researchers working in other settings may work in psychology departments without being registered, although they may not use the title "psychologist".

Training Paths

Most universities across the province offer programs for either a Bachelor of Arts in Psychology or a Bachelor of Science in Psychology. To enter, you need a high school diploma with no less than five Grade 12 academic courses. To undertake further training, you should complete an honours degree in Psychology, which is a four-year program.

- Dalhousie also offers Master of Science and Ph.D. programs in Psychology and Psychology/Neuroscience. Students admitted into one of these Master's programs are expected to advance into the corresponding Ph.D. program.
- Acadia University offers a Master of Science degree program in Clinical Psychology. Dalhousie University offers a Ph.D. program in Clinical Psychology.
- Mount Saint Vincent University offers a two-year Master of Arts degree program in School Psychology. To enter this program, you need a Bachelor's degree in Psychology or a Bachelor of Education degree with a minimum B+ average.
- Saint Mary's University offers a Master of Science degree program in Industrial/Organizational Psychology.

Skills and Aptitudes

To work in this field, you should be mature, patient, and interested in helping others. You must have excellent oral and written communication skills. Good listening skills, an understanding of human behaviour, and awareness of diversities are also important.

Likely Employers

Some psychologists work in hospitals, while others are employed by educational facilities, health and social service agencies, or in private practice.

Other Considerations

The majority of psychologists work full-time and for the full year, while most of the rest are part-year workers. There has been a noticeable increase in psychologists working in the private sector in the past few years.

Related Occupations

Family Physicians and Specialists
Human Services Workers
Managers in Health, Education, Social, and Community Services
Policy and Program Officers
Social Workers, Counsellors, and Probation Officers
University Professors and Assistants

For Further Information

Association of Psychologists of Nova Scotia
1657 Barrington St., Suite 414
Halifax, NS B3H 2R7
email: apns@apns.ca
www.apns.ca

Canadian Psychological Association
151 Slater St., Suite 205
Ottawa, ON K1P 5H3
Phone: (613) 237-2144
www.cpa.ca

Nova Scotia Board of Examiners in Psychology
5991 Spring Garden Rd., Suite 1115
Halifax, NS B3H 1Y6
Phone: (902) 423-2238
www3.ns.sympatico.ca/apns/nsbep.html

Recreation and Sports Program Officers and Consultants

Labour Market Conditions

Estimated employment in 2002	480
Estimated change in employment between 2002 and 2007	GROWING
Estimated average annual number of job openings	20
Estimated rate of unemployment in 2001	AVERAGE
Estimated average annual earnings in 1995	$25,000

Typical Occupations

Fitness Consultant
Kinesiologist
Recreation Consultant
Sports Consultant
Sport Program Supervisor

Nature of the Work

Kinesiologists conduct fitness tests and assessments and design, develop, and deliver fitness counselling and exercise programs. Fitness consultants provide advice on the design and development of fitness programs and activities. Recreation consultants advise on the design and development of recreation programs and activities for communities, organizations and institutions. Sports consultants provide expert advice to sports associations and other organizations on development and administration of sports programs. Sports program supervisors develop, plan, and coordinate sports programs.

Requirements

- To work as a sport/recreation/fitness consultant or a sports program supervisor, you would need a Bachelor's degree in Recreation Administration, Sport Administration, Kinesiology, or Physical Education, combined with some work experience in a related field, or a diploma in recreation, sports, or fitness programs combined with some experience in a related field.
- To work as a kinesiologist, you would need a degree in Kinesiology, at the Bachelor's or Master's level.
- Recreation and sports program supervisors require experience as program leaders or instructors in recreation or sport. Additional certification, such as in fitness or in lifesaving, may also be required.
- You may require certification by the Canadian Society for Exercise Physiology as a Certified Fitness Consultant to work as a fitness consultant.

Training Paths

- A two-year diploma program in Recreation Leadership is available at the Truro campus of the Nova Scotia Community College (NSCC). The entrance requirement is a high school diploma.
- The Truro campus of the NSCC also offers a two-year diploma in Human Services, with a second-year concentration in Gerontology–Recreation and Leisure. The first year of the program can be taken at a number of campuses of NSCC. The entrance requirements are a high school diploma, 40 hours of appropriate paid or volunteer experience, and a reference from someone in the helping professions. In order to complete the work placement portion of the program, students are required to have first aid training and a Criminal Record Check.
- Acadia, St. Francis Xavier and Dalhousie universities offer Bachelor's programs in Recreation, Kinesiology and/or Human Kinetics. The University College of Cape Breton (UCCB) offers the first year of a Bachelor of Science in Physical Education. This program is transferable to other universities after the completion of the first year.
- A three- to four-year Bachelor of Science degree in Neuroscience is available at Dalhousie University, as well as a Master of Arts degree in Leisure Studies and a Master of Science degree in Kinesiology.

Likely Employers

Municipal governments employ many individuals who work in these occupations; many others work in the health and social services sector. Employment can also be found in commercial businesses providing amusement and recreational services.

Other Considerations

Full-time work is typical in these occupations; however, it is often seasonal so many recreation and sports officers work for only part of each year.

Related Occupations

Managers in Health, Education, Social, and Community Services
Managers in Service-producing Industries
Occupations in Recreation and Sports
Occupations in Therapy and Assessment
School Teachers, School Counsellors, and School Librarians

For Further Information

Canadian Society for Exercise Physiology
185 Somerset St. West, Suite 202
Ottawa, ON K2P 0J2
www.csep.ca

Nova Scotia Sport and
Recreation Commission
5516 Spring Garden Rd., 2nd Floor
Halifax, NS B3J 2V2
www.gov.ns.ca/src

Sport Nova Scotia
PO Box 3010 South
Halifax, NS B3J 3G6
Phone: (902) 425-5450
www.sportnovascotia.com

School Teachers, School Counsellors, and School Librarians

Labour Market Conditions

Estimated employment in 2002	**11480**
Estimated change in employment between 2002 and 2007	**STABLE**
Estimated average annual number of job openings	**390**
Estimated rate of unemployment in 2001	**SIGNIFICANTLY BELOW AVERAGE**
Estimated average annual earnings in 1995	**$44,000**

Typical Occupations

Biology Teacher – High School
Department Head – Junior High School
French Immersion Teacher
  – Elementary School
Guidance Counsellor
Special Education Teacher

Nature of the Work

This group includes teachers and counsellors in elementary and secondary schools. Duties of teachers include preparing subject material for presentation according to an approved curriculum; assigning and correcting homework; evaluating progress of students; and participating in staff meetings, educational conferences, and professional development workshops. Duties of school counsellors include group and individual counselling of students regarding educational, career and life planning, personal, and social issues; consulting with teachers and parents regarding various issues and concerns; and administering and interpreting standardized intelligence, aptitude, and interest tests. During school and summer holidays, teachers may choose to teach, do research, upgrade their education, travel, or pursue other non-academic interests.

Requirements

- To teach in public schools in Nova Scotia, a Nova Scotia Teacher's Certificate is required. Under current standards, a Nova Scotia Teacher's Certificate requires a minimum of four years of post-secondary training, including the award of an approved Bachelor's degree from a recognized university and the completion of an approved teacher education program.
- This is most often accomplished by the completion of a Bachelor's degree in Education (B.Ed.), which must be preceded by a Bachelor's degree in arts, science, physical education, or equivalent.
- School counsellors are required to have regular teacher certification and, in addition, must have completed graduate courses in counselling.
- Additional training beyond the academic requirement of a B.Ed. may be required to specialize in Special Education.

Training Paths

- Two-year Bachelor of Education degrees are available at Acadia, St. Francis Xavier, and Mount Saint Vincent universities and at Université Sainte Anne (French instruction only).
- Each of these institutions offers a range of graduate programs for practising teachers to specialize or upgrade their qualifications, although Université Sainte Anne offers fewer such programs. For more information, you should contact the institutions.
- In addition to regular teacher certification, a limited number of non-teaching certification programs are also available, leading to specialist teacher certification in such fields as Social Work, Speech Therapy, Library Services, and Testing Services. Programs in Social Work, Speech Therapy, and Library Services are available at Dalhousie University. A program in Testing Services is offered at Mount Saint Vincent University.
- The only university in Nova Scotia that offers an approved program for training in School Counselling is Acadia University.

Skills and Aptitudes

To work in this field, you should be patient, imaginative, objective, and resourceful. Leadership skills and the ability to motivate students are important. You must be able to communicate ideas in a clear, concise, and interesting way. Planning and organizational skills are also necessary. Energy and stamina are often needed, as a teacher's or school counsellor's workday involves more than just school hours. Teachers must be knowledgeable about their subjects and keep informed of new material or methods of teaching.

Likely Employers

Most people in these occupations work in elementary and secondary schools. Occasionally, these teachers will work in provincial government departments.

Other Considerations

The majority of workers in these occupations work full-time and for the full year.

Related Occupations

Childhood Educators
College and Other Vocational Instructors
Managers in Health, Education,
  Social, and Community Services
Other Instructors and Teachers
Psychologists
Social Workers, Counsellors,
  and Probation Officers

For Further Information

Canadian Teachers' Federation
110 Argyle Ave.
Ottawa, ON K2P 1B4
www.ctf-fce.ca

Nova Scotia Department of Education
Teacher Certification
PO Box 578
Halifax, NS B3J 2S9
certification.ednet.ns.ca

Nova Scotia School Counsellors Association
c/o Nova Scotia Teachers Union
3106 Dutch Village Rd.
Halifax, NS B3L 4L7
www.nstu.ns.ca/SA/NSSCA/index.html

Nova Scotia Teachers Union
3106 Dutch Village Rd.
Halifax, NS B3L 4L7
email: nstu@nstu.ca
www.nstu.ns.ca

Teacher Librarians Association of Nova Scotia
c/o Nova Scotia Teachers Union
3106 Dutch Village Rd.
Halifax, NS B3L 4L7
email: nstu@nstu.ca
www.nstu.ns.ca/SA/TLANS/index.html

Labour Market Conditions

- **Estimated employment in 2002 ....2560**
- **Estimated change in employment between 2002 and 2007 ....GROWING RAPIDLY**
- **Estimated average annual number of job openings 170**
- **Estimated rate of unemployment in 2001 ....BELOW AVERAGE**
- **Estimated average annual earnings in 1995................................$32,000**

Social Workers, Counsellors, and Probation Officers

Typical Occupations

Addictions Counsellor
Child Protection Worker
Classification Officer,
Correctional Institution
Family Counsellor
Mental Health Social Worker
Parole Officer

Nature of the Work

Social workers help children, adults, families, and groups overcome problems in their daily lives; provide counselling, therapy and referral to other social services; and evaluate child development and the adequacy of child care. Activities may include interviewing clients individually, in families, or in groups, to assess their situations and problems and determine the types of services needed; providing counselling and therapy to assist clients in developing skills to deal with their problems; and investigating cases of child abuse or neglect and taking authorized protective action when necessary.

Counsellors assist individuals and groups to identify, understand, and overcome personal, vocational/educational and social problems, and to achieve personal objectives. Activities may include interviewing and counselling clients; preparing case histories and assessing problems; developing and implementing counselling and intervention programs; and evaluating the effectiveness of counselling programs and clients' progress in solving their problems. Probation officers monitor the behaviour of criminal offenders serving probation, while parole officers monitor offenders who have been conditionally released into the community on parole, and they assist these individuals with their return to the community. Classification officers assess inmates and develop rehabilitation programs for inmates.

Requirements

- You generally need at least a Bachelor's degree in Education, Psychology, Social Work, or a related social science to gain employment in these fields. In some cases a Master's degree is required, especially in those occupations which require you to have a professional designation/certification.
- Social work positions in a variety of areas are available with a Bachelor of Social Work degree; however, a Master's degree in Social Work is usually necessary for supervisory, administrative, research, and mental health positions.
- For counselling positions, a Master's degree in Counselling, Social Work, Youth or Adult Education, or a related discipline is required.
- For parole officers, several years of experience as a correctional officer and successful completion of a university equivalency test may substitute for formal education requirements.
- Graduates of schools of social work must seek professional certification through the Nova Scotia Association of Social Workers.

Training Paths

- Bachelor's degrees in Psychology are offered at most universities throughout Nova Scotia. Master's programs in Psychology are available at Dalhousie, Saint Mary's and Acadia universities.
- The Maritime School of Social Work at Dalhousie University offers both Bachelor's and Master's degree programs in Social Work. To enter the three-year Bachelor of Social Work (BSW) degree program, you must have completed at least five university credits outside the social work field, with an overall B- average. To enter the two-year program, you must have a Bachelor's degree with relevant social work content. Both the Bachelor's and Master's programs are accredited by the Canadian Association of Schools of Social Work. To enter the Master of Social Work degree program, you should have a BSW and a minimum of two years of social work experience.
- Two-year Bachelor of Education degrees are available at Université Sainte Anne (French instruction only), Acadia, St. Francis Xavier, and Mount Saint Vincent universities.
- Programs in counselling are available at the Counsellor Training Institute in Halifax and the Career Academy of Canada in Sackville.

Skills and Aptitudes

To work in these fields, you should have an interest in the social welfare of others and a desire to help them. Patience, maturity, good listening skills, and an understanding of human nature are important. You must be able to communicate clearly, both orally and in writing. Leadership, reasoning, and decision-making skills are also necessary.

Likely Employers

The majority of people in this field are employed by social service organizations such as child welfare centres, family planning agencies, or homes for the disabled. Others in these occupations often work in hospitals and in federal or provincial government departments.

Other Considerations

The majority of workers in these occupations work full-time and for the full year.

Related Occupations

Human Services Workers
Managers in Health, Education, Social, and Community Services
School Teachers, School Counsellors, and School Librarians

For Further Information

Canadian Association of Social Workers
383 Parkdale Ave., Suite 402
Ottawa, ON K1Y 4R4
Phone: (613) 729-6668
www.casw-acts.ca

Maritime School of Social Work
6414 Coburg Rd.
Halifax, NS B3H 2A7

Nova Scotia Association of Social Workers
1891 Brunswick St., Suite 106
Halifax, NS B3J 2G8
Phone: (902) 429-7799
www.nsasw.org

University Professors and Assistants

Labour Market Conditions

- **Estimated employment in 2002 ....2820**
- **Estimated change in employment between 2002 and 2007 ....STABLE**
- **Estimated average annual number of job openings 110**
- **Estimated rate of unemployment in 2001 ...........SIGNIFICANTLY BELOW AVERAGE**
- **Estimated average annual earnings in 1995.................................$53,000**

Typical Occupations

Graduate Assistant
Instructor
Professor
Research Assistant, University

Nature of the Work

University professors teach courses to undergraduate and graduate students. They study and meet with colleagues to keep up with developments in their field. University professors conduct research by experimenting, collecting and analyzing data, and examining original documents, literature, and other source material. From this, they develop hypotheses, arrive at conclusions, and publish their findings in academic journals and books. As well, some university professors are hired on a course-by-course basis only to teach. As implied, teaching and research assistants assist university professors in lecturing, hosting seminars, and research activities.

Requirements

- A Ph.D. in a specialized field is generally required for employment as a university professor. You might be able to gain employment with a Master's degree in a few disciplines for which a doctoral degree is not available. Those who have completed a Ph.D. program and substantially completed their thesis research might also obtain employment in some of the highest-demand fields. In the profession you would generally begin as an instructor or an assistant professor with the possibility of promotion, depending on experience, quality of teaching, and published research reports.
- Teaching and research assistants are usually students enrolled in Bachelor's or Master's programs.

Training Paths

Master's and Ph.D. degrees generally range from two to six years in length, although some Master's degrees may only be one year in length. Master's programs are available at many universities throughout the province; however, Ph.D. programs are limited by both field of specialization and location. Generally, you may apply to a Master's program once you have completed a Bachelor's degree. You may apply to a doctoral program once you have a Master's degree or a Bachelor's degree with honours. The doctoral program normally consists of two years of course work followed by two or three years of research and thesis writing.

Skills and Aptitudes

To work in this field, you should be intellectual, inquisitive, and analytical, and have a strong desire to pursue and pass on knowledge. You must be able to communicate clearly and concisely in both oral and written forms as university faculty are expected to publish articles regularly as well as lecture. The ability to carry out and analyze research is also important. Strong planning and leadership skills are essential. You must be able to inspire confidence and motivate students to learn. As well, you must be a self-starter, as universities are decentralized institutions in which to work.

Likely Employers

As the title indicates, university professors are employed in post-secondary education institutions that are designated as universities.

Other Considerations

The majority of workers in these occupations work full-time and for the full year. University faculty generally have flexible work schedules; they may work staggered hours and teach classes in the evening.

Related Occupations

College and Other Vocational Instructors
School Teachers, School Counsellors, and School Librarians

For Further Information

Canadian Association of University Teachers
2675 Queensview Dr.
Ottawa, ON K2B 8K2
www.caut.ca

Occupations Unique to Primary Industry

Agriculture and Horticulture Workers

Labour Market Conditions

- Estimated employment in 2002 2050
- Estimated change in employment between 2002 and 2007 ....DECLINING
- Estimated average annual number of job openings 5
- Estimated rate of unemployment in 2001 ...........SIGNIFICANTLY ABOVE AVERAGE
- Estimated average annual earnings in 1995................................$19,000

Typical Occupations

Dairy Farm Worker
Farm Machinery Operator
Forest Nursery Worker
Greenhouse Worker
Poultry Farm Worker

Nature of the Work

These individuals are involved with planting and cultivation, and raising livestock. General farm workers plant, fertilize, cultivate, and harvest crops; tend livestock and poultry; operate farm machinery and equipment; prepare produce for market; and clean stables, barns, barnyards, and pens. Nursery and greenhouse workers prepare soil; plant bulbs, seeds, and cuttings; spray trees, shrubs, flowers, and plants; regulate greenhouse and outdoor irrigation systems; prepare trees, shrubs, flowers, and plants for sale; and provide information to customers.

Requirements

- There are no specific education or training requirements for general farm workers, however, college certificates or other specialized courses related to farming, such as farm equipment mechanics, agricultural welding, and pesticide application, would be beneficial. Basic farm knowledge, however, is usually required for employment.
- Forest nursery and greenhouse workers usually require high school completion and the completion of college courses in horticulture or a related field, although on-the-job training is provided.

Training Paths

- The Nova Scotia Agricultural College (NSAC) offers a number of short farm-related courses on livestock, machinery and equipment, occupational health and safety, and arboriculture through its Centre for Continuing and Distance Education. It also offers several courses on horticulture and turf management.
- A one-year certificate in Horticulture—Greenhouse/Nursery is offered at the Kingstec Campus of the Nova Scotia Community College (NSCC). You must have successfully completed high school. A science background or previous experience is an asset.

Skills and Aptitudes

For this type of work, you should enjoy working outdoors. You should have good health, physical stamina, and strength. You must also be able to take direction and carry out instructions given by a supervisor. Good communication and interpersonal skills may be necessary for working with the public.

Likely Employers

Almost all people in these occupations work within the agriculture industry.

Other Considerations

The majority of workers in these occupations work part-year. When employed, three-quarters of workers are full time and one-quarter work more than 50 hours per week. Because most of these people rely on the agriculture industry for their livelihood, job prospects and earnings are likely to vary from year to year.

Related Occupations

Contractors, Operators and Supervisors
in Agriculture and Horticulture
Labourers in Primary Industry
Life Sciences Technicians and Technologists

For Further Information

Canadian Society for Horticultural Science
c/o Agricultural Institute of Canada
141 Laurier Ave. West, Suite 1112
Ottawa, ON K1P 5J3
www.aic.ca

Aquaculture Operators and Managers

Labour Market Conditions

Estimated employment in 2002	240
Estimated change in employment between 2002 and 2007	GROWING
Estimated average annual number of job openings	10
Estimated rate of unemployment in 2001	AVERAGE
Estimated average annual earnings in 1995	$41,000

Typical Occupations

Finfish Farm Operator
Fish Hatchery Manager
Mussel Grower
Oyster Grower
Shellfish Farm Manager

Nature of the Work

These individuals manage and operate facilities which cultivate fish, shellfish or marine plants for commercial sale. They identify requirements of the species and oversee site preparation for species cultivation; co-ordinate selection and maintenance of brood stock; monitor environment and maintain optimum conditions, and operate cultivating and harvesting equipment. They also collect and record growth and production data; maintain financial records and establish market strategies; scuba dive to inspect sea farm operations; and design and construct pens and floating stations.

Requirements

- Completion of high school is usually required, plus completion of a college program in aquaculture or a related field. Several years of experience in aquaculture operations may substitute for academic requirements.
- Aquaculture operators and managers are generally required to have several years of experience in the area of operation or management. A commercial and/or experimental lease and/or licence is required for self-employed aquaculture operators and managers. For more information, you should contact the Nova Scotia Department of Agriculture and Fisheries.

Training Paths

- A one-year certificate program in Aquaculture is offered at the Shelburne campus of the Nova Scotia Community College (NSCC). This program teaches students all of the basic skills of husbandry of freshwater and marine organisms being farmed commercially or for enhancement programs in eastern Canada. As a component of farm management, students also learn how to clean, operate, and perform general maintenance on pumps, filters, and other farm equipment. To enter this program, you must successfully complete high school, including Mathematics 12, Biology 12 and Chemistry 12.
- The Nova Scotia Agricultural College (NSAC) offers a four-year program leading to a Bachelor of Science in Aquaculture. Admission requires high school graduation with English 12, Chemistry 12, Pre-calculus Mathematics, and at least one of Biology 12 or Physics 12, with a minimum overall average of 60%. Mathematics 12 with a 70% or higher may be acceptable. Physics 12 is recommended.
- A Bachelor's degree in Biology or Marine Biology is strongly advised for technical work in a fish hatchery. This three- or four-year degree is available at several universities in the province. You must complete high school with high marks in Grade 12 Mathematics, English, and the sciences for entry.
- The Canadian Aquaculture Institute offers courses, workshops, and seminars on aquaculture-related topics. You should contact the Institute for more detailed information.

Skills and Aptitudes

To work in this field, you should enjoy working around water and marine life. You need an aptitude for administrative work and project management. Effective communication skills are important. Computer skills may be helpful.

Likely Employers

Most aquaculture operators and managers work in the fishing industry. About one-quarter are self-employed while the rest are paid employees.

Other Considerations

The majority of people in these occupations work for part of each year. When working most are employed full-time with one-quarter working more than 50 hours per week.

Related Occupations

Labourers in Primary Industry
Life Sciences Technicians
and Technologists

For Further Information

Canadian Aquaculture Institute
University of Prince Edward Island
550 University Ave.
Charlottetown, PEI C1A 4P3
email: ocrane@upei.ca
www.upei.ca/~cai

Nova Scotia Department of Agriculture and Fisheries
PO Box 2223
Halifax, NS B3J 3C4
www.gov.ns.ca/nsaf

Contractors, Operators, and Supervisors in Agriculture and Horticulture

Labour Market Conditions

Estimated employment in 2002	1610
Estimated change in employment between 2002 and 2007	GROWING
Estimated average annual number of job openings	60
Estimated rate of unemployment in 2001	AVERAGE
Estimated average annual earnings in 1995	$26,000

Typical Occupations

Christmas Tree Farm Operator
Crop Dusting Contractor
Greenhouse Manager
Landscaping Manager
Park Caretaker
Poultry Farm Foreperson

Nature of the Work

Individuals in these occupations manage establishments and supervise workers engaged in agricultural and horticultural activities. This could include managing businesses which provide agricultural livestock or crop services; supervising farm and landscape workers; developing work schedules and establishing procedures; maintaining quality control and production records; maintaining financial records; and hiring and supervising staff.

Requirements

Experience in the occupation supervised is generally required.

- For example, crop duster contractors are required to have several years of experience related to their agricultural service. Crop duster contractors are required to obtain a certificate of qualification from the Nova Scotia Department of Environment and Labour. You should contact this department for more detailed information.
- Farm supervisors and specialized livestock workers, such as a poultry farm foreperson, may be required to obtain a college certificate or other specialized training in agriculture or livestock husbandry.
- A greenhouse manager would generally be required to complete a horticultural program. Landscaping and grounds maintenance contractors and managers are required to have experience as landscape or horticulture supervisors, or as landscape or horticulture technicians. They may also be required to obtain a diploma or specialized courses in landscaping and horticulture. Supervisors in landscape and horticulture, such as park caretakers, are required to have related work experience.

Training Paths

- A one-year certificate in Horticulture–Greenhouse/Nursery is offered at the Kingstec campus of the Nova Scotia Community College (NSCC). You must have successfully completed high school. A science background or previous experience is an asset.
- A one-year certificate in Horticulture–Landscape is offered at the Kingstec campus of the NSCC. To enter, you must successfully complete high school with completion of Biology 10 or Chemistry 11.
- A one-year diploma program in Horticulture–Retail Garden Centre is also offered at the Kingstec campus of the NSCC. The entrance requirement to this program is a horticulture diploma or certificate, or appropriate work experience.
- The Nova Scotia Agricultural College (NSAC) offers many one- to two-year related technician and technology programs. The technician programs include Animal Science, Plant Science, and Agricultural Engineering. The technology programs include Animal Health Technology, Biology Technology, Landscape Horticulture Technology, Agricultural Engineering Technology, and Farming Technology. Generally, you must have a high school diploma to enter these programs. Some of the technology programs also require that you first complete a technician program.
- The Nova Scotia Agricultural College offers a number of short courses on horticulture, turf management, and arboriculture through its Centre for Continuing and Distance Education.

Skills and Aptitudes

For these occupations, you should enjoy working outdoors. Supervisory and communication skills are essential. You must be willing to try new processes and methods. The ability to adapt to constantly changing technologies is important for more efficient production. You must also be observant, innovative, and resourceful.

Likely Employers

The majority of these contractors, operators, and supervisors work in the agriculture sector.

Other Considerations

The majority of workers in these seasonal occupations work for part of the year while the remaining workers work full-time and for the full year. Over one-third of the people in these occupations are self-employed.

Related Occupations

Agriculture and Horticulture Workers
Architects and Landscape Architects
Foresters

For Further Information

Canadian Society for Horticultural Science
c/o Agricultural Institute of Canada
141 Laurier Ave. West, Suite 1112
Ottawa, ON K1P 5J3
www.aic.ca

Nova Scotia Department
of Agriculture and Fisheries
PO Box 2233
Halifax, NS B3J 3C4
www.gov.ns.ca/nsaf

Nova Scotia Department
of Environment and Labour
PO Box 697
Halifax, NS B3J 3B7
www.gov.ns.ca/enla

Farmers and Farm Managers

Labour Market Conditions

- **Estimated employment in 2002** 3480
- **Estimated change in employment between 2002 and 2007**.............GROWING
- **Estimated average annual number of job openings**..............................80
- **Estimated rate of unemployment in 2001** ...........SIGNIFICANTLY BELOW AVERAGE
- **Estimated average annual earnings in 1995**.................................$19,000

Typical Occupations

Apple Grower
Dairy Farmer
Hog Breeder
Potato Farmer
Vegetable Grower

Nature of the Work

This occupational group is concerned with working on or operating farms. Activities may include planning farm operations; purchasing equipment and supplies; operating farm machinery; and, at times, hiring, training, and supervising workers. Many types of farming are seasonal in nature. Every farm specializes in one or more areas, such as dairy, poultry, swine, beef, horses, sheep, fruit, vegetable, wheat, and other grain crops.

Requirements

Extensive farming experience, obtained as a farmer, farm supervisor, or specialized livestock worker or by working on a family farm, is usually required. Although there may be no other formal requirements, completion of an agricultural diploma or degree and courses in business management would be beneficial.

Training Paths

Most training for this work is provided on the job.

- However, you may apply to the Nova Scotia Agricultural College (NSAC) for training in many different areas of agriculture. For example, NSAC offers a four-year Bachelor of Science degree in Agriculture. This program has specializations in Agricultural Chemistry, Agricultural Economics, Agricultural Mechanization, Animal Sciences, Environmental Biology, Soil Science, Pest Management, and Plant Sciences. You must successfully complete high school with a strong background in the sciences and Mathematics for entry.
- NSAC also offers many one- to two-year technician and technology programs related to farming. The technician programs include Animal Science, Plant Science, Bio-Resources Engineering, and Agricultural Business. The technology programs include Animal Health, Biology Technology, Landscape Horticulture Technology, Agricultural Technology, and Farming Technology. Generally, you must have a high school diploma to enter these programs. However, some of the technology programs require that you first complete a technician program.
- NSAC offers a number of short farm-related courses regarding livestock, machinery and equipment, occupational health and safety, and arboriculture through its Centre for Continuing and Distance Education.

Skills and Aptitudes

For this type of work, you should be interested in farming and enjoy working outdoors. Physical stamina, patience, perseverance, and excellent observation skills are needed. You should be willing to try new processes and farming methods. The ability to adapt to constantly changing technologies is important for more efficient production. You must also be innovative and have good planning and problem-solving abilities. Mechanical aptitude is valuable.

Likely Employers

As might be expected, almost all individuals in this industry work within the agriculture industry in farming environments.

Other Considerations

Most people in these occupations are self-employed and work full-time and for the full year. Over half of the people in this occupation work more than 50 hours per week. Because most of these people rely on the agriculture industry for their livelihood, job prospects and earnings are likely to vary from year to year. Although many farm operators and managers on crop farms work from sunup to sundown during the planting and harvesting seasons, they often work full-time on the farm only six to seven months a year, and many have second jobs off the farm.

Related Occupations

Agriculture and Horticulture Workers
Contractors, Operators and Supervisors in Agriculture and Horticulture

For Further Information

Agricultural Institute of Canada
141 Laurier Ave. West, Suite 1112
Ottawa, ON K1P 5J3
email: info@aic.ca
www.aic.ca

Nova Scotia Federation of Agriculture
PO Box 784
Truro, NS B2N 5E8
www.nsfa-fane.ca

Fishing Vessel Masters, Skippers, and Fishers

Labour Market Conditions

- **Estimated employment in 2002 ....4020**
- **Estimated change in employment between 2002 and 2007 ....STABLE**
- **Estimated average annual number of job openings...............................60**
- **Estimated rate of unemployment in 2001 ...........SIGNIFICANTLY ABOVE AVERAGE**
- **Estimated average annual earnings in 1995.................................$37,000**

Typical Occupations

Fishing Vessel Captain
Fishing Vessel Deck Officer
Inshore Fisher
Lobster Fisher
Trawler Captain

Nature of the Work

Workers in this group of occupations manage and operate fishing vessels to catch fish and other marine life. Activities may include determining areas for fishing; plotting courses and computing navigational positions using compasses, charts, tables, and other aids; steering vessels and operating navigational instruments and electronic fishing aids; and recording fishing progress, crew activities, and sea and weather conditions in the ship's log.

Requirements

- Becoming a fishing officer requires at least one to two years of experience as a fishing vessel deckhand. Captains are required to have one year of service as officer in charge of the watch. A Fishing Master's Certificate of Competency from Transport Canada is required for all fishing masters and officers. There are four levels of competency.
- Several years of experience as a fishing vessel crew member or helper and a Level I or II Fishing Master Class certificate are usually necessary to become a fishing vessel skipper.
- A commercial fishing licence issued by Fisheries and Oceans Canada is required, as are licences for each species of fish pursued.

Training Paths

- Generally, people are involved in the fishing industry for at least a couple of years before they reach the position of officer. Fishers generally receive most of their training on the job, under the supervision of other crew members.
- Courses are offered at the Strait Area campus of the Nova Scotia Community College (NSCC) to prepare candidates to write for Transport Canada's Certificate of Competency for Fishing Master Levels IV, III, II and I. Some prior experience on a vessel is advisable before enrolling in the introductory navigation course. At least twelve months of sea time on a vessel of at least 5 gross tons is required for admission to the lowest level, Level IV.
- The Strait Area campus, NSCC, offers a one-year certificate in Marine Navigation–Cadet. The entrance requirements are a high school diploma with good standing in Mathematics, communication and science subjects and an acceptable medical certificate. The program is approved by Transport Canada, which grants graduates remission of seatime toward that required for the Watchkeeping Mate certificate (junior officer).

Skills and Aptitudes

To work in these occupations, you need good eyesight and health. Physical strength may be necessary. You may be exposed to extreme weather conditions and varying climates. You must also be willing to travel for long periods at a time. To work as an officer, you should be self-disciplined and have strong leadership abilities.

Likely Employers

Workers in this field are either self-employed or work for companies in the fishing or fish products manufacturing industries.

Other Considerations

Most workers in these occupations actively fish for only part of each year. As well, work in these occupations is seasonal with employment peaking in the summer months. When fishing, most work for more than 50 hours per week. An individual's earnings will depend upon a number of factors, such as the type of boat and equipment used, the species sought, the allotted quota and the market price for the catch. Severe reductions in the availability of certain types of fish, mainly groundfish such as cod, have caused employment levels to drop significantly in recent years. Although conditions are expected to improve, job prospects are likely to remain limited in the future.

Related Occupations

Deck and Engineer Officers,
 Water Transport
Other Fishing and Trapping Occupations

For Further Information

Maritime Fishermen's Union
408 rue Main
Shediac, NB E4P 2G1

Nova Scotia Department of Agriculture and Fisheries
PO Box 2233
Halifax, NS B3J 3C4
www.gov.ns.ca/nsaf

Nova Scotia Fisheries Human Resource Sector Council
38-B John St., #1
Yarmouth, NS B5A 3H2
www.fishjobs.ca

Nova Scotia Fishermen Draggers Association
33 Chestnut St
Yarmouth, NS B5A 2N7

Labourers in Primary Industry

Labour Market Conditions

- **Estimated employment in 2002 ....2410**
- **Estimated change in employment between 2002 and 2007 ....STABLE**
- **Estimated average annual number of job openings..............................30**
- **Estimated rate of unemployment in 2001............SIGNIFICANTLY ABOVE AVERAGE**
- **Estimated average annual earnings in 1995.................................$22,000**

Typical Occupations

Apple Picker
Fish Farm Worker
Mine Labourer
Roughneck
Sod Layer
Tree Planter
Well Treatment Helper

Nature of the Work

This group includes many general labouring occupations that do not require a high level of formal training but do require a high level of strength and physical stamina. These workers sort, load, and pack materials; operate and maintain machinery and equipment; and assist tradespersons.

Requirements

Although there are few formal education requirements for workers in these occupations, completion of high school and related industry courses are recommended. Some workers in these occupations may be required to obtain certification in Workplace Hazardous Materials Information System (WHMIS) and Transportation of Dangerous Goods (TDG).

Training Paths

- Most training for occupations in this group is provided on the job.
- Training in WHMIS and TDG is available from the Nova Scotia Community College (NSCC) and through numerous private training organizations. Contact Transport Canada for TDG training in your region. Contact the Nova Scotia Department of Environment and Labour for information on WHMIS training.
- The Atlantic Petroleum Training College in Dartmouth offers training programs in entry level Lease-Hand, Floor-Hand (Roughneck).

Skills and Aptitudes

To work in these occupations, you should have good health, physical stamina, and strength. Agility, coordination, and mechanical aptitude would be helpful. You must also be able to take direction and carry out instructions given by a supervisor.

Likely Employers

Primary industry labourers are employed in a number of different sectors including logging and forestry; mining; and agriculture.

Other Considerations

Most workers in these occupations work for part of the year and typically earn less than half the yearly income of employees who work for the whole year. Although some labouring jobs are seasonal, others are not. Wages will vary according to the specific type of work performed, and annual incomes of many workers in these occupations are relatively low. Labourers in primary industry are often exposed to harsh weather conditions. The physical demands of this work may make it difficult for people to stay in these jobs for a long time.

Related Occupations

Agriculture and Horticulture Workers
Contractors, Operators and Supervisors in Agriculture and Horticulture
Supervisors in Primary Industry

For Further Information

Agricultural Institute of Canada
141 Laurier Ave. West, Suite 1112
Ottawa, ON K1P 5J3
email: info@aic.ca
www.aic.ca

Nova Scotia Department of
Environment and Labour
Occupational Health and Safety
PO Box 697
Halifax, NS B3J 2T8
www.gov.ns.ca/enla/ohs

Nova Scotia Department
of Natural Resources
PO Box 698
Halifax, NS B3J 2T9
www.gov.ns.ca/natr

Nova Scotia Forestry Association
PO Box 1113
Truro, NS B2N 5G9
www.nsfa.ns.ca

Transport Canada
45 Alderney Dr., Suite 1415
Dartmouth, NS B2Y 2N6
www.tc.gc.ca

Logging and Forestry Workers

Labour Market Conditions

- Estimated employment in 2002 1040
- Estimated change in employment between 2002 and 2007 ....GROWING
- Estimated average annual number of job openings..............................20
- Estimated rate of unemployment in 2001............SIGNIFICANTLY ABOVE AVERAGE
- Estimated average annual earnings in 1995................................$19,000

Typical Occupations

Chainsaw Operator
Feller
Forest Fire Fighter
Silviculture Worker
Thinning Saw Operator

Nature of the Work

These individuals work in forestry-related occupations. Chainsaw and skidder operators operate chainsaws to fell, de-limb, and bark trees at logging and loading sites; operate cable or grapple skidders to move felled trees from the logging site to the landing area; and assess site, terrain, and weather conditions before felling and yarding trees. Forestry workers assess sites, select seedlings, and plant trees in reforestation areas; thin and space trees in reforestation areas; thin young forest stands; fight forest fires; and perform other silviculture duties such as collecting seed cones, pruning trees, and marking trees for subsequent operations.

Requirements

- Completion of high school may be required to work in any of these occupations.
- Completion of a college or other specialized program for silviculture workers or forestry crew workers may also be required.
- Previous experience as a logging and forestry labourer or logging machine operator may be required to work as a chainsaw operator or feller. You must remember, however, that experience requirements may vary depending on the type and location of woodlands operations.
- Certification in Workplace Hazardous Materials Information System (WHMIS) and Transportation of Dangerous Goods (TDG) may also be required.

Training Paths

- Formal training in chainsaw and power saw operation and maintenance and several months of on-the-job training are usually provided for workers in these occupations.
- The Nova Scotia Department of Natural Resources offers a Woodlot Management home study course; contact them for additional information.
- The Cumberland, Lunenburg, and Strait campuses of the Nova Scotia Community College (NSCC) offer a one-year certificate in Forestry Resources. This program is designed to develop skill and knowledge in harvesting, silviculture, and operation of chainsaws, clearing saws, and heavy equipment, including safety and fire suppression. Admission requires a high school diploma or equivalent. Graduates may continue their studies at the Maritime Forest Ranger School.
- Training in WHMIS and TDG is available at the Nova Scotia Community College (NSCC), and through numerous private training organizations. Contact Transport Canada for TDG training in your region. Contact the Nova Scotia Department of Environment and Labour for information on WHMIS training.

Skills and Aptitudes

To work in this field, you should enjoy working outdoors and be prepared to spend time in isolated areas. You must be able to work alone and as part of a team. An awareness of safety is important. Physical stamina may also be needed.

Likely Employers

Most people in this occupation are employed in the logging or forestry industry.

Other Considerations

Most are part-year workers in this seasonal occupation where employment peaks in the summer months. Employment in the logging industry can vary significantly from one year to the next. Therefore, job prospects in these occupations will rise and fall along with the industry.

Related Occupations

Logging Machinery Operators
Supervisors in Primary Industry

For Further Information

Maritime Forest Ranger School
1350 Regent St.
Fredericton, NB E3C 2G6
Phone: 1-888-619-9900
email: info@mfrs.nb.ca
www.mfrs.nb.ca

Nova Scotia Department of
Environment and Labour
Occupational Health and Safety
PO Box 697
Halifax, NS B3J 2T8
www.gov.ns.ca/enla/ohs

Nova Scotia Forest Products Association
PO Box 696
Truro, NS B2N 5E5
www.nsfpa.ns.ca

Nova Scotia Forestry Association
PO Box 1113
Truro, NS B2N 5G9
www.nsfa.ns.ca

Transport Canada
45 Alderney Dr., Suite 1415
Dartmouth, NS B2Y 2N6
www.tc.gc.ca

Logging Machinery Operators

Labour Market Conditions

- **Estimated employment in 2002** 660
- **Estimated change in employment between 2002 and 2007** ....GROWING
- **Estimated average annual number of job openings** 10
- **Estimated rate of unemployment in 2001** ....AVERAGE
- **Estimated average annual earnings in 1995** $29,000

Typical Occupations

Chipping Machine Operator
Grapple Operator
Loader Operator – Logging
Log Processor Operator
Shortwood Harvester Operator

Nature of the Work

Logging machinery operators operate cable yarding systems, mechanical harvesters, and mechanical tree processors to fell, yard, and process trees at logging sites. Duties include transporting trees from logging areas to landing or loading sites; performing felling, slashing, bucking, and bunching operations at logging sites; and chipping, sorting, and loading logs or trees at landing sites.

Requirements

Completion of high school is usually required. On-the-job training, from three to sixteen months, is provided by the employer, depending on the complexity of machinery operated and the type of woodlands operation. Experience requirements vary, also depending on the complexity of machinery operated; however, a minimum of one year of previous experience in logging is usually required. Certification as a heavy equipment operator and Workplace Hazardous Materials Information System (WHMIS) certification may also be required.

Training Paths

- Heavy Equipment Operator programs are available through private career colleges. Please contact the Private Career Colleges Section, Nova Scotia Department of Education, for information on registered private career colleges and the programs offered.
- Training in WHMIS is available from the Nova Scotia Community College (NSCC) and through numerous private training organizations. Contact the Nova Scotia Department of Environment and Labour for information on WHMIS training.

Skills and Aptitudes

For these occupations, you must be alert and responsible. An awareness of safety is important. You should enjoy working outdoors and be prepared to spend time in isolation. Physical stamina is also needed.

Likely Employers

Most of these machine operators work within the logging and forestry sector.

Other Considerations

About one-third of the workers in these occupations work full-time and for the full year, while the majority work for only part of each year. Employment in the logging industry can vary significantly from one year to the next. Therefore, job prospects in these occupations will rise and fall along with the industry.

Related Occupations

Heavy Equipment Operators
Logging and Forestry Workers
Motor Vehicle and Transit Drivers
Supervisors in Primary Industry

For Further Information

Canadian Institute of Forestry
580 Booth St., 7th Floor
Ottawa, ON K1A 0E4
www.cif-ifc.org

Nova Scotia Department of Education
Private Career Colleges
PO Box 578
Halifax, NS B3J 2S9
pcc.ednet.ns.ca

Nova Scotia Forestry Human Resource Sector Council
PO Box 696
Truro, NS B2N 5E5

Nova Scotia Department of Environment and Labour
Occupational Health and Safety
PO Box 697
Halifax, NS B3J 2T8
www.gov.ns.ca/enla/ohs

Other Fishing and Trapping Occupations

Labour Market Conditions

- **Estimated employment in 2002.........820**
- **Estimated change in employment between 2002 and 2007 ....STABLE**
- **Estimated average annual number of job openings 5**
- **Estimated rate of unemployment in 2001............SIGNIFICANTLY ABOVE AVERAGE**
- **Estimated average annual earnings in 1995.................................$28,000**

Typical Occupations

Fishing Vessel Deckhand
Fishing Vessel Netmender
Fur Trapper
Game Trapper
Hunter

Nature of the Work

This group of occupations is concerned with fishing support activities, hunting and trapping wild animals for food and pelts, and killing unwanted predators. Among other activities, trappers catch designated animals for bounty or other control programs. They also trap live animals to sell, and maintain and repair trapping equipment. Hunters skin dead animals for pelts; treat, pack, and transport pelts to processing plants or to public auctions; and maintain hunting equipment. Fishing vessel deckhands prepare nets, lines, and other fishing tackle; clean, sort, and pack fish in ice; repair nets, splice ropes, and maintain fishing gear; clean deck surfaces and fish holds; and handle mooring lines during docking.

Requirements

- There are no formal education requirements for occupations in this group. Fishing vessel deckhands, hunters, and trappers are required to have the appropriate licences. A first aid certificate is also required. Training for most of these occupations is provided on the job, under the supervision of experienced workers.
- Inland fishing licenses are issued by the Nova Scotia Department of Agriculture and Fisheries. Commercial fishing licenses are issued by Fisheries and Oceans Canada. Training in Marine Emergency Duties (MED) is required. You should contact these departments for more detailed information.
- To purchase a hunting licence or to be in possession of a firearm in a game habitat, you must have a Nova Scotia Firearm Hunting Certificate or a Nova Scotia Bowhunters Hunting Certificate, issued by the Nova Scotia Department of Natural Resources (DNR).
- Hunting and trapping licences are issued by DNR. Hunting licences are also available at many sporting goods stores in Nova Scotia.

Training Paths

- Trappers must pass the Fur Harvesters course given by DNR. A seven-day short course in fishing, hunting, and recreational categories is offered for those who want to increase their guiding knowledge. If you do not wish to take this course, you must pass written and practical exams plus have first aid and Cardio-pulmonary Resuscitation (CPR) certificates before a licence will be issued.
- To receive a Nova Scotia Firearm Hunting Certificate you must successfully complete a course in Atlantic Provinces Firearm Safety and a Hunter Education Course. To receive a Bowhunters Hunting Certificate, you must successfully complete a Bowhunter Education Course. You should contact DNR for information on available courses.

Skills and Aptitudes

For these occupations, you should enjoy working outdoors and being physically active. Good eyesight and health are important. You may be exposed to extreme weather conditions and varying climates. You must be alert, patient, and observant. Some jobs involve irregular or long hours and may be seasonal.

Likely Employers

Most people in these occupations are employed in the fishing or fish products manufacturing industries.

Other Considerations

Most workers actively fish for only part of each year. As well, work in these occupations is seasonal where employment peaks in the summer months. An individual's earnings will depend upon a number of factors such as the type of boat and equipment used, the species sought, the allotted quota and the market price for the catch. Severe reductions in the availability of certain types of fish, mainly groundfish such as cod, have caused employment levels to drop significantly in recent years. Although conditions are expected to improve, job prospects are likely to remain limited in the future.

Related Occupations

Deck and Engineer Officers, Water Transport
Fishing Vessel Masters, Skippers, and Fishers
Occupations in Tourism, Travel, and Accommodations

For Further Information

Fisheries and Oceans Canada
Nova Scotia Licensing Service Centre
133 Church St.
Antigonish, NS B2G 2E3
www.mar.dfo-mpo.gc.ca

Nova Scotia Department
of Agriculture and Fisheries
PO Box 2223
Halifax, NS B3J 3C4
www.gov.ns.ca/nsaf

Nova Scotia Department
of Natural Resources
PO Box 698
Halifax, NS B3J 2T9
www.gov.ns.ca/natr

Nova Scotia Fisheries Human Resource
Sector Council
38-B John St., #1
Yarmouth, NS B5A 3H2
www.fishjobs.ca

Supervisors in Primary Industry

Labour Market Conditions

- **Estimated employment in 2002.........640**
- **Estimated change in employment between 2002 and 2007 ....STABLE**
- **Estimated average annual number of job openings.............................10**
- **Estimated rate of unemployment in 2001 ..........SIGNIFICANTLY BELOW AVERAGE**
- **Estimated average annual earnings in 1995...............................$45,000**

Typical Occupations

Forestry Crew Supervisor
Logging Contractor
Mine Supervisor
Rig Manager
Well Services Crew Supervisor

Nature of the Work

Individuals in these occupations supervise and co-ordinate the activities of workers in logging, mining, and drilling operations. Activities include scheduling work crews, equipment, and transportation; resolving work problems and recommending measures to improve work methods; and instructing workers in safety, recognizing unsafe work conditions, and modifying work procedures. They also ensure that government regulations are met; prepare production and other reports; and train new workers.

Requirements

- Completion of high school is required for employment in any of these occupations.
- Working in the fields of logging and forestry usually requires completion of a one- to three-year college program for forestry technologists or technicians and several years of experience as a logger, silvicultural worker, or logging machinery operator.
- Completion of a college or university program in mining technology or engineering may be required for employment as a supervisor in mining occupations.
- Drilling supervisors, including rig managers, are required to complete college or industry courses for drillers and supervisors. Several years' experience in the occupations supervised is required. Most companies also provide on-the-job training for workers in these occupations. A chemical application licence, a first aid certificate, and courses in Workplace Hazardous Materials Information System (WHMIS), Transportation of Dangerous Goods (TDG) or other safety subjects may also be required.
- A blaster's licence may be required for working in some of the typical occupations listed above. Blasters must be certified by the Board of Examiners at the Nova Scotia Department of Environment and Labour, and must be at least nineteen years old. Other provincial certification may be required for employment in these occupations.

Training Paths

- An engineering degree is only available in this province through a five-year Bachelor of Engineering program at Dalhousie University. The first two years of the degree must be completed through the Engineering diploma program at one of several universities in the province. To enter the diploma program, you must complete Grade 12 with high marks in Mathematics, Physics, and Chemistry at the academic or advanced level. Dalhousie offers a three-year cooperative Bachelor of Engineering degree in Mining Engineering. This program also offers Petroleum Engineering studies in the areas of well drilling, reservoir engineering, formation evaluation, well completion, and production.
- The Maritime Forest Ranger School in Fredericton, New Brunswick, offers a Forest Ranger program equivalent to a two-year Forest Technology program. This program is also available in French at their campus in Bathurst, New Brunswick. Some required courses include Forest Botany, Forest Wildlife Management, Silviculture, and Surveying. All students are required to work in a natural resource field for at least twelve weeks.
- The Cumberland, Lunenburg, and Strait Area campuses of the Nova Scotia Community College (NSCC) offer a one-year certificate in Forestry Resources. This program is designed to develop skill and knowledge in harvesting, silviculture, and chainsaw, clearing saw and heavy equipment operation, including safety and fire suppression. Admission requires a high school diploma or equivalent. Graduates may continue their studies at the Maritime Forest Ranger School.
- The Nova Scotia Department of Natural Resources offers a Woodlot Management home study course; contact them for additional information.
- Training in WHMIS and TDG is available through the Nova Scotia Community College (NSCC) and numerous private training organizations. Contact the Nova Scotia Department of Environment and Labour for information on WHMIS training. Contact Transport Canada for TDG training in your area.
- Training as a blaster is received on the job under the supervision of a certified blaster. After at least six months of work experience, you may write the entry level exam. You may then progress from Entry Level to Class Three based on your work experience and successful completion of the previous class. Self-directed study is required before writing each exam. Information on the home study course and an application form for a blaster's licence can be obtained from the nearest regional office of the N.S. Department of Environment and Labour.
- The Nova Scotia Community College (NSCC) offers a one-year advanced diploma in Offshore Operations. Admission requires a diploma in an engineering-related program, journeyperson status in an appropriate trade, or equivalent education and work experience. Contact NSCC for further information.

- The Atlantic Petroleum Training College in Dartmouth offers training programs in entry level Lease-hand, Floor-Hand (Roughneck).

Skills and Aptitudes

For these occupations, you need an aptitude for administrative work and project management. Leadership, supervisory, and effective communication skills, both oral and written, are essential. You must be able to work alone and as part of a team. You must be observant, responsible, and able to enforce rules and regulations.

Likely Employers

The majority of people in these occupations work for logging and forestry or coal mining companies. Others are employed by other types of mining companies.

Other Considerations

Job opportunities are sensitive to changing economic conditions in the industry in which people are employed. Also, supervisory personnel usually have significant non-supervisory experience in a related occupation.

Related Occupations

Foresters
Heavy Equipment Operators
Life Sciences Technicians
  and Technologists
Logging and Forestry Workers
Logging Machinery Operators
Underground Miners, Oil and Gas Drillers,
  and Related Occupations

For Further Information

Association of Professional
Engineers of Nova Scotia
1355 Barrington St.
PO Box 129
Halifax, NS B3J 2M4
www.apens.ns.ca

Canadian Institute of Forestry
580 Booth St., 7th Floor
Ottawa, ON K1A 0E4
www.cif-ifc.org

Maritime Forest Ranger School
1350 Regent Street
Fredericton, NB E3C 2G6
Phone: 1-866-619-9900
email: info@mfrs.nb.ca
www.mfrs.nb.ca

Nova Scotia Department
of Environment and Labour
Occupational Health and Safety
PO Box 697
Halifax, NS B3J 2T8
www.gov.ns.ca/enla/ohs

Transport Canada
45 Alderney Dr., Suite 1415
Dartmouth, NS B2Y 2N6
www.tc.gc.ca

Underground Miners, Oil and Gas Drillers, and Related Occupations

Labour Market Conditions

- **Estimated employment in 2002.........310**
- **Estimated change in employment between 2002 and 2007....GROWING RAPIDLY**
- **Estimated average annual number of job openings..............................20**
- **Estimated rate of unemployment in 2001..........................ABOVE AVERAGE**
- **Estimated average annual earnings in 1995...............................$37,000**

Typical Occupations

Acid Truck Driver
Chemical Services Operator
Conveyor Operator
Crusher Operator
Service Rig Operator
Underground Mine Blaster

Nature of the Work

Individuals in these occupations work in mining and in oil and gas well drilling operations. Miners drill, blast, operate mining machinery, and perform related duties to extract coal and ore in underground mines and to construct tunnels, passageways, and shafts for mining operations. Oil and gas well drillers and well servicers control the operation of drilling and hoisting equipment on drilling rigs, and direct the activities of the rig crew. Underground mine service and support workers perform a range of duties related to the operation of ore passages, chutes, and conveyor systems; the construction and support of underground structures, passages, and roadways; and the supply of materials and supplies to support underground mining. Oil and gas well drilling workers and service operators operate drilling and service rig machinery, drive trucks, and operate specialized hydraulic pumping systems.

Requirements

- Completion of high school is usually required for employment in any of these occupations.
- Previous experience as a mine labourer, or experience in other mine occupations, is usually required for employment as a conveyor operator, a crusher operator, or an underground mine blaster.
- Oil and gas well drillers and well servicers are required to complete three to six months of formal on-the-job training, college or industry training courses, and four or more years of work experience in subordinate rig crew positions. Training of up to three months with an experienced operator is required for oil and gas well services operators. Courses in Workplace Hazardous Materials Information System (WHMIS), Transportation of Dangerous Goods (TDG), or other safety subjects may also be required.
- A blaster's licence may be required for working in some of the typical occupations listed above. Blasters must be certified by the Board of Examiners at the Nova Scotia Department of Environment and Labour, and must be at least nineteen years old.

Training Paths

- Drillers are generally trained on the job, as are many workers in the mining industry. Although there may be no formal training requirements, completing a training program would improve your chances for gaining employment.
- Training as a blaster is also received on the job under the supervision of a certified blaster. After at least six months of work experience, you may write the entry level exam. You may then progress from Entry Level to Class Three based on your work experience and successful completion of the previous class. Self-directed study is required before writing each exam.
- Courses in truck driving are available through private career colleges in the province.
- Training in WHMIS and TDG is available through the Nova Scotia Community College (NSCC) and numerous private training organizations. Contact the Nova Scotia Department of Environment and Labour for infomation on WHMIS training. Contact Transport Canada for TDG training in your area.
- The Nova Scotia Community College (NSCC) offers a one-year advanced diploma in Offshore Operations. Admission requires a diploma in an engineering-related program, journeyperson status in an appropriate trade, or equivalent education and work experience. Contact NSCC for further information.
- The Atlantic Petroleum Training College in Dartmouth offers training programs in entry level Lease-Hand, Floor-Hand (Roughneck).

Skills and Aptitudes

To work in these occupations, you should have good health, physical stamina, and strength. Agility, coordination, and a mechanical aptitude would also be helpful. You must be able to take direction and carry out instructions given by supervisors.

Likely Employers

Most people in these fields have traditionally worked for coal or metal mining corporations. However, the coal mining sector has experienced significant declines and is expected to continue to shrink in the future. Meanwhile, development offshore has created new jobs in the oil and gas sector.

Other Considerations

The majority of these workers work full-time and for the full year. Earnings in these occupations tend to be above the average for the province.

Related Occupations

Labourers in Primary Industry
Other Professional Engineers
Supervisors in Primary Industry

For Further Information

Association of Professional
Engineers of Nova Scotia
1355 Barrington St.
PO Box 129
Halifax, NS B3J 2M4
www.apens.ns.ca

Canadian Institute of Mining,
Metallurgy and Petroleum
3400 boul de Maisonneuve Ouest
Bureau 1210
Montreal, QC H3Z 3138
email: cim@cim.org
www.cim.org

Nova Scotia Department
of Environment and Labour
Occupational Health and Safety
PO Box 697
Halifax, NS B3J 2T8
www.gov.ns.ca/enla/ohs

Transport Canada
45 Alderney Dr., Suite 1415
Dartmouth, NS B2Y 2N6
www.tc.gc.ca

Occupations Unique to Processing, Manufacturing, and Utilities

Central Control and Process Operators in Manufacturing and Processing

Labour Market Conditions

Estimated employment in 2002	200
Estimated change in employment between 2002 and 2007	GROWING
Estimated average annual number of job openings	10
Estimated rate of unemployment in 2001	AVERAGE
Estimated average annual earnings in 1995	$51,000

Typical Occupations

Chemical Process Operator
Gas Plant Operator
Pipeline Compressor Station Operator
Pulping Control Operator
Rolling Mill Control Operator

Nature of the Work

These individuals operate process control machinery and equipment in industries such as refineries, steel mills, chemical plants, and pulp mills. Duties may include coordinating and monitoring the operation of a particular aspect of mineral ore, metal, cement, chemical, or pulp processing production through control panels, computer terminals, or other control systems; completing and maintaining production reports; participating in safety audits and programs; and providing emergency response when required.

Requirements

- Previous related work experience is essential for these workers. Also important are a thorough knowledge of the related machinery and tools, and a sound background in the properties of the materials being processed or assembled and the procedures being used.
- Chemical process operators and process technicians require completion of several years of formal company or on-the-job training. Most employers require that you complete high school with courses in Mathematics, Physics, and Chemistry.
- Also, depending on the nature of the work, a provincial Power (Stationary) Engineer or Refrigeration Plant Operator certificate through the Public Safety Division of the Department of Environment and Labour may be required when certain kinds of equipment are included in the process. Certification in Transportation of Dangerous Goods (TDG), first aid, firefighting, or Workplace Hazardous Materials Information System (WHMIS) may also be required.

Training Paths

- Training for this type of work is generally provided on the job or by your employer.
- To become a chemical process operator, you might want to consider the three-year cooperative diploma program in Chemical Technology at the University College of Cape Breton (UCCB). You must complete the first year of Applied Sciences before entering the diploma program. Admission requires high school graduation with Chemistry 12, Mathematics 12, and Physics 12 recommended.
- The Marconi campus of the NSCC offers a one-year certificate in Process Operations. The entrance requirement is a high school diploma.
- UCCB also offers cooperative Engineering Technology diploma programs in Electrical/Electronic Technology with a Power option, and Electrical/Electronic Engineering Technology–Instrumentation and Controls option. Admission to these programs requires high school graduation with Mathematics 12, and Physics 12 recommended.
- A one-year certificate in Industrial-Mechanical is available at the Strait Area campus of the Nova Scotia Community College (NSCC). Admission requires high school graduation or equivalent.
- The Akerley and Strait Area campuses of the NSCC offer a one-year certificate program for Power Engineering 4th Class and a one-year diploma program for Power Engineering 3rd Class. Power Engineering is also offered as a block-release apprenticeship program at the Institute of Technology campus. Admission to the certificate program requires high school graduation or equivalent. Please refer to the section on "Stationary/Power Engineers."
- Training in WHMIS and TDG is available through the Nova Scotia Community College (NSCC) and numerous private training organizations. Contact the Nova Scotia Department of Environment and Labour for information on WHMIS training. Contact Transport Canada for TDG training in your area.

Skills and Aptitudes

To work in these occupations, you should be responsible and alert. Mechanical aptitude and knowledge of computers are important. You must be able to work as part of a team.

Likely Employers

Most of the people in this field are employed by companies in the pulp and paper or the refined petroleum industries.

Other Considerations

The majority of people in these occupations work full-time and for the full year.

Related Occupations

Machine Operators
Stationary/Power Engineers
Supervisors in Processing, Assembly, and Fabrication
Technical Occupations in Civil, Mechanical, and Industrial Engineering

For Further Information

Canadian Pulp and Paper Association
Sun Life Building
1155, rue Metcalfe, Bureau 1900
Montreal, QC H3B 4T6
www.cppa.org

Nova Scotia Department of Environment and Labour
Public Safety Division
5151 Terminal Road, 6th Floor
PO Box 697
Halifax, NS B3J 2T8
www.gov.ns.ca/enla/psafe

Transport Canada
45 Alderney Dr., Suite 1415
Dartmouth, NS B2Y 2N6
www.tc.gc.ca

Electrical and Electronics Assemblers

Labour Market Conditions

Estimated employment in 2002	530
Estimated change in employment between 2002 and 2007	STABLE
Estimated average annual number of job openings	15
Estimated rate of unemployment in 2001	SIGNIFICANTLY ABOVE AVERAGE
Estimated average annual earnings in 1995	$25,000

Typical Occupations

AC and DC Motor Assembler
Battery Repairer
Circuit Board Assembler
Dishwasher Assembler
Transformer Inspector

Nature of the Work

This group includes those who assemble, make, and inspect electrical and electronic parts and equipment. Activities of assemblers and fabricators may include operating machinery to make or assemble parts and products; assembling parts by hand; setting up equipment; and performing minor repairs to items rejected from the production line. Activities of inspectors may include monitoring production and troubleshooting production problems; identifying and marking acceptable and defective assemblies and returning faulty assemblies for repair; and collecting, recording, and summarizing inspection results.

Requirements

- Electronic assemblers, fabricators, inspectors, and testers require some high school education.
- Progression from electronics assembler or component fabricator to electronics inspector or tester is possible with additional training and experience.
- Electronics testers may be required to have some university or college courses in basic electronic theory, testing techniques, and testing equipment. Electronics inspectors and testers may need to obtain experience as electronics assemblers or component fabricators.
- Industrial electrical and motor transformer assemblers, fabricators, and inspectors may be required to complete university or college courses in electricity or electrotechnology.

Training Paths

- Training for these occupations is often provided on the job.
- Universities and the University College of Cape Breton (UCCB) offer two-year programs leading to a diploma in Engineering. UCCB offers a cooperative diploma in Engineering Technology with an Electrical/Electronic Technology–Power option. Applicants to these programs require high school graduation with a strong background in math and science. Grade 12 Mathematics, usually Pre-calculus Mathematics, and Physics are usually required.
- The Marconi and Pictou campuses of the Nova Scotia Community College (NSCC) offer a two-year Electro Mechanical Technician diploma program. Applicants require high school graduation with preference given to academic Grade 12 Mathematics and Physics.
- A number of campuses of the NSCC also offer a two-year Electronic Engineering Technician diploma. Students learn to design and assemble circuitry for electronic equipment in accordance with engineering instructions and technical manuals. A high school diploma with academic Mathematics 12 is required.
- The Marconi campus offers a one-year diploma in Industrial Control Technician. The entrance requirement is an electronic mechanical/engineering diploma or equivalent.
- The Institute of Technology campus offers a two-year diploma Computer Electronics Technician program and the Burridge campus offers a two-year diploma Computer Service Technician program. The admission requirement to either of these programs is a high school diploma with English 12, Mathematics 12 and Physics 12.

Skills and Aptitudes

This work requires excellent spatial perception, form perception, and eye-to-finger coordination. You must be accurate and able to pay close attention to detail. A keen interest in working with machines and routine processes is necessary. You should also be physically fit and have good eyesight and hearing.

Likely Employers

Most of these assemblers work with companies in the electrical and electronics industry.

Other Considerations

The majority of workers in these occupations work full-time and for the full year.

Related Occupations

Other Mechanics
Other Technical Inspectors and Regulatory Officers
Supervisors in Processing, Assembly, and Fabrication
Technical Occupations in Electronics and Electrical Engineering

For Further Information

Society of Certified Engineering
Technicians and Technologists
of Nova Scotia
PO Box 159, DMPS,
Dartmouth, NS B2Y 2Y3
www.scettns.ns.ca

Labourers in Processing, Manufacturing, and Utilities

Labour Market Conditions

- **Estimated employment in 2002 ....5010**
- **Estimated change in employment between 2002 and 2007 ....STABLE**
- **Estimated average annual number of job openings..............................70**
- **Estimated rate of unemployment in 2001 ............SIGNIFICANTLY ABOVE AVERAGE**
- **Estimated average annual earnings in 1995.................................$26,000**

Typical Occupations

Box Packer
Dairy Helper
Foundry Labourer
Labourer, Rubber Manufacturing
Plywood Drier Feeder
Shellfish Packer

Nature of the Work

This group includes many occupations that do not require a high level of formal training. These occupations are generally performed inside a home, building, or other structure. These workers operate and monitor various types of machinery and equipment; load and transport materials; check, sort, assemble, or package materials and products; and perform other routine tasks.

Requirements

Some high school education may be required. Previous experience in a related occupation is considered an asset.

Training Paths

Training for work in these occupations is generally provided on the job. Progression to machine operating, process operating, or assembling positions is possible with experience.

Skills and Aptitudes

To work in these occupations, you should have good physical health. You must also be able to take direction and carry out instructions given by a supervisor.

Likely Employers

People in this field are employed by a variety of different business sectors. Employers are often in the fish products, general food processing, wood, pulp and paper, or rubber products industries.

Other Considerations

Only about one-third of workers in these occupations work full-time and for the full year. Although work patterns vary according to the employer's business and the type of work done, work in these occupations is generally seasonal. Generally, this work is carried out in shifts at various hours of the day or on a part-time basis.

Related Occupations

Machine Operators
Supervisors in Processing, Assembly,
and Fabrication

For Further Information

Canadian Pulp and Paper Association
Sun Life Bldg.
1155, rue Metcalfe, Bureau 1900
Montreal, QC H3B 4T6
www.cppa.org

Machine Operators

Labour Market Conditions

Estimated employment in 2002	8760
Estimated change in employment between 2002 and 2007	STABLE
Estimated average annual number of job openings	90
Estimated rate of unemployment in 2001	AVERAGE
Estimated average annual earnings in 1995	$27,000

Typical Occupations

Brewer
Cement Miller
Fish Plant Worker
Industrial Meat Cutter
Rubber Goods Assembler
Sawmill Machine Operator
Sewing Machine Operator
Weaver

Nature of the Work

This group includes many machine-related occupations that require some skill and are generally performed inside a building. These workers assist with repairs and maintenance of machinery; feed conveyors and other equipment; handle materials; launder, sew, and weave; monitor machine operations; and clean work areas.

Requirements

Most jobs in this group require some high school education; completion of high school is preferred. Previous experience in this field or a related field is generally required.

Training Paths

- Training for these occupations is generally provided on the job for periods up to several months, depending on the complexity of the product, whether equipment set-up and maintenance is done by the operator, and the number of machines operated. Previous experience in the same company may be required for some operators.
- The Nova Scotia Agricultural College (NSAC) offers a four-month meat-cutting course through its Centre for Continuing and Distance Education.
- The Nova Scotia Community College (NSCC) offers a one-year certificate program in Meat Cutting–Retail at the Kingstec campus. Admission requires high school graduation or the equivalent.
- The Maritime Forest Ranger School offers short courses in sawmilling through its Department of Continuing Education.

Skills and Aptitudes

To work in these occupations, you should be responsible, alert, and in good physical health. Coordination, agility, and a mechanical aptitude are important. You must also be able to take direction and carry out instructions given by a supervisor.

Likely Employers

The majority of the people in this field are employed by companies in the fish products or rubber products industries. Also, food processing, wood, and pulp and paper companies often employ machine operators.

Other Considerations

Less than half of machine operators work full-time and for the full year; the majority of individuals in these occupations work for only part of each year. Shift work may be typical for many of these jobs.

Related Occupations

Labourers in Processing, Manufacturing, and Utilities
Supervisors in Processing, Assembly, and Fabrication

For Further Information

Textiles Human Resources Council
66 Slater St., Suite 1720
Ottawa, ON K1P 5H1
www.thrc-crhit.org

Machining, Metalworking, Woodworking, and Related Machine Operators

Labour Market Conditions

- **Estimated employment in 2002 ....1020**
- **Estimated change in employment between 2002 and 2007 ....GROWING**
- **Estimated average annual number of job openings 20**
- **Estimated rate of unemployment in 2001 ....ABOVE AVERAGE**
- **Estimated average annual earnings in 1995 ....$26,000**

Typical Occupations

Aircraft Parts Etcher
Forging Press Operator
Lathe Machine Operator
Punch Press Operator
Woodworking Machine Operator

Nature of the Work

This group includes many occupations that make use of machinery. Duties of operators may include setting up and operating machinery; cleaning and lubricating equipment; replacing parts as necessary; and reading and interpreting specifications or following verbal instructions.

Requirements

- Completion of some high school education is usually required for workers in these occupations. Although there are no formal academic requirements, many employers are looking for individuals with a high school diploma and previous training and experience in a related mechanical or machine-operating field.
- Some of these positions, for example aircraft parts etcher, may require courses in machining.

Training Paths

- Several months of on-the-job training is generally required for employment in these occupations.
- A one-year Machine Shop certificate program is offered at the Institute of Technology, Kingstec and Pictou campuses of the Nova Scotia Community College (NSCC). The entrance requirement to this program is a high school diploma with Academic 12 Mathematics.
- A one-year Machine Shop diploma program is offered at the Institute of Technology campus of NSCC. The entrance requirement to this program is a Machine Shop certificate or recognized training and/or work experience.
- A one-year certificate program in Metal Fabricating and Plating is offered at the Marconi campus of the NSCC. The entrance requirement is a high school diploma.
- A one-year diploma CNC Machining Technician program is available at the Institute of Technology and Pictou campuses. The entrance requirement is a Machine Shop certificate or Journeyperson Machinist certification.

Skills and Aptitudes

To work in these occupations, you should have a mechanical aptitude and good physical health. You must be accurate and attentive to detail. You must be able to take direction and carry out instructions.

Likely Employers

Individuals in this field work in a variety of business sectors. Employers are often in the transportation equipment or wood products industries.

Other Considerations

Most people in these occupations work full-time. Generally, this work is carried out in shifts at various hours of the day.

Related Occupations

Carpenters and Cabinetmakers
Supervisors in Processing, Assembly, and Fabrication
Machinists, Tool and Die Makers, and Tooling Inspectors
Welders

For Further Information

International Association of Machinists and Aerospace Workers
15 Gervais Dr., Suite 707
North York, ON M3C 1Y8
www.iamaw.org

Mechanical Assemblers

Labour Market Conditions

- **Estimated employment in 2002** 1330
- **Estimated change in employment between 2002 and 2007** .... GROWING
- **Estimated average annual number of job openings** 30
- **Estimated rate of unemployment in 2001** .... SIGNIFICANTLY BELOW AVERAGE
- **Estimated average annual earnings in 1995** $33,000

Typical Occupations

Airframe Assembler
Auto Assembly Worker
Gearbox Assembler
Transmission Assembler
Wing Tank Mechanic

Nature of the Work

This group includes those who assemble and inspect a wide variety of products. Aircraft assemblers install pre-fabricated parts to manufacture fixed- or rotary-wing aircraft or aircraft subassemblies, while aircraft assembly inspectors inspect aircraft assemblies for adherence to engineering specifications. Motor vehicle assemblers install prefabricated motor vehicle parts and components to form subassemblies and finish motor vehicles, while inspectors and testers ensure proper performance of the parts and test their conformity to quality standards. Mechanical assemblers assemble a wide variety of mechanical products such as trucks, buses, snowmobiles, hydraulic pumps, and sewing machines, while inspectors ensure proper quality and product specifications.

Requirements

- Completion of high school is usually required.
- Completion of a university or college program in aviation or aeronautical technology, with emphasis in aircraft manufacturing, may also be required.
- You may require experience as a mechanical assembler to become an inspector in this field.

Training Paths

- Aircraft assemblers receive several months of on-the-job and classroom training.
- A ten-month certificate program, Aircraft Structural Repair Technician, is available at Holland College, Summerside, PEI. Admission requires completion of Grade 12 with Grade 11 or 12 courses in mathematics and physics.
- Skills required for motor vehicle assemblers, inspectors, and testers are normally acquired through on-the-job training. However, one-year programs such as Motor Vehicle Repair–Mechanical, offered at several campuses of the NSCC, may also be appropriate training for this type of work. You must successfully complete high school to enter.

Skills and Aptitudes

This work requires excellent spatial perception, form perception, and eye-to-finger coordination. You must be accurate and able to pay close attention to detail. A keen interest in working with machines and routine processes is necessary. You should also be physically fit and have good eyesight and hearing.

Likely Employers

Most mechanical assemblers work for companies in the transportation equipment industries.

Other Considerations

The majority of people in these occupations work full-time and for the full year.

Related Occupations

Aircraft Technicians and Inspectors
Other Machinery and Transportation Equipment Mechanics
Supervisors in Processing, Assembly, and Fabrication

For Further Information

Air Transport Association of Canada
255 Albert St., Ste 1100
Ottawa, ON K1P 6A9
Phone: (613) 233-7727
www.atac.ca

Labour Market Conditions

- **Estimated employment in 2002 ....2000**
- **Estimated change in employment between 2002 and 2007 ....GROWING**
- **Estimated average annual number of job openings 50**
- **Estimated rate of unemployment in 2001 ....ABOVE AVERAGE**
- **Estimated average annual earnings in 1995 ....$24,000**

Other Assembly and Related Occupations

Typical Occupations

Boat Assembler
Camera Assembly Inspector
Furniture Finisher
Metal Spray Operator
Plastic Parts Assembler
Prefabricated Housing Assembler

Nature of the Work

This group includes those who assemble, finish, and inspect a wide variety of products. For example, boat assemblers assemble wooden, fibreglass, and metal boats, while inspectors check the assembled boats to ensure proper product quality. Furniture assemblers assemble parts to form subassemblies or complete articles of furniture, while inspectors check the finished products to ensure product quality. Furniture finishers finish new wood or metal furniture to specified colour and finish, while manufacturing painters and coaters tend and operate machines or use brushes and spray equipment to apply paint or other non-metallic protective and decorative coatings.

Requirements

- You will need some high school education to become a boat assembler. Experience as a boat assembler may be required for boat inspectors.
- Wood products assemblers also are required to have some high school education. Inspectors in this field may be required to have wood products assembly experience. College, high school, or industry courses in furniture finishing or refinishing may be required for employment in the area of furniture finishing.
- Some industrial painters, such as aircraft painters, are required to have specialized training and/or college courses. Experience in operating production machinery or equipment may be required to work as plating, metal spraying, or related operators.

Training Paths

- A two-year Wood Manufacturing diploma program is available at the Marconi campus of the Nova Scotia Community College (NSCC). Admission requires high school graduation or equivalent.
- A one-year Metal Fabricating and Plating certificate program is available at the Marconi Campus of the NSCC. Admission requires high school graduation or equivalent.
- Training programs in plastics manufacturing processes are available in Ontario and Quebec.

Skills and Aptitudes

These occupations require mechanical aptitude and physical fitness. Good spatial perception, form perception, and hand-eye coordination are important. You must be accurate and attentive to detail.

Likely Employers

People in these occupations work in a number of different business sectors. The most frequent employers are manufacturers of transportation equipment, plastic products, and furniture and fixtures, as well as retail trade businesses.

Other Considerations

Most people in these occupations are employed full-time.

Related Occupations

Carpenters and Cabinetmakers
Machining, Metalworking, Woodworking, and Related Machine Operators
Motor Vehicle Body Repairers
Supervisors in Processing, Assembly, and Fabrication

For Further Information

Canadian Autoworkers Union
63 Otter Lake Crt.
Halifax, NS B3S 1M1
www.caw.ca

Canadian Plastics Industry Association
Atlantic Region
101 Research Dr.
Dartmouth, NS B2Y 4T6
Phone: (902) 424-8670 ext. 143
email: dcross@cpia.ca
www.plastics.ca

Printing Machine Operators and Related Occupations

Labour Market Conditions

Estimated employment in 2002	1280
Estimated change in employment between 2002 and 2007	DECLINING
Estimated average annual number of job openings	10
Estimated rate of unemployment in 2001	SIGNIFICANTLY BELOW AVERAGE
Estimated average annual earnings in 1995	$25,000

Typical Occupations

Cerlox Binder Operator
Darkroom Technician
Laser Printer Operator
Offset Press Operator
Perforator Operator
Pre-press Technician
Printing Press Operator

Nature of the Work

Individuals in these occupations operate printers and cameras, bind books, and develop film. Printing machine operators operate laser printers, computerized highspeed colour copiers and other printing machines to print text, illustrations, and designs. Those in pre-press occupations operate graphic arts cameras and scanners; assemble film and negatives; and prepare, engrave, and etch printing plates or cylinders for various types of printing presses. Binding and finishing machine operators set up, operate, or oversee the operation of specific machines, equipment, or computerized units that bind and finish printed material. Photographic and film processors process and finish still photographic film and motion picture film. Press operators set up and operate sheet and web-fed presses, by mounting and adjusting plates or cylinders and ink fountains.

Requirements

- Completion of high school may be required along with completion of printing courses to become a printing machine operator.
- Camera, platemaking, and other pre-press occupations, and binding and finishing machine operators are required to successfully complete high school. A university or college program in graphic arts technology, or a four- to five-year apprenticeship program in printing or graphic arts, or a combination of on-the-job training and specialized university, college, or industry courses may also be required to work in this field.
- Completion of high school is usually necessary to become a photographic and film processor. For employment in film processing laboratories, completion of a specialized program or extensive related experience is required.

Training Paths

- On-the-job training is provided for film printing machine operators in retail outlets.
- The Halifax campus of the Nova Scotia Community College (NSCC) offers a two-year diploma program in Printing Technology. This program provides students with instruction in pre-press and print production techniques leading to entry-level positions in the printing industry. You must have successfully completed high school or equivalent to enter. This program is offered in alternating years.
- A one-year diploma program in Photography is offered at the Halifax campus of the NSCC. The entrance requirements are an Applied Communication Arts certificate, or equivalent, and a submitted portfolio. Preference is given to applicants with some formal arts training or related work experience.
- The Halifax campus also offers a one-year advanced diploma program in Photography II/Digital Imaging. The entrance requirements for this program are the Photography diploma or equivalent academic and/or work experience and a submitted portfolio.

Skills and Aptitudes

To work in these occupations, you should be responsible and alert. Coordination and a mechanical aptitude are important. You must also be able to take direction and carry out instructions given by a supervisor.

Likely Employers

The majority of these operators are employed in the printing and publishing industry, but others work in retail trade companies or various service organizations.

Other Considerations

The majority of these workers work full-time and for the full year.

Related Occupations

Clerical Workers and Office Equipment Operators
Creative Designers and Technicians
Photographers
Supervisors in Processing, Assembly, and Fabrication

For Further Information

Nova Scotia Printing
Industries Association
PO Box 82
Enfield, NS B2T 1C6

Supervisors in Processing, Assembly, and Fabrication

Labour Market Conditions

Estimated employment in 2002	2660
Estimated change in employment between 2002 and 2007	GROWING
Estimated average annual number of job openings	60
Estimated rate of unemployment in 2001	SIGNIFICANTLY BELOW AVERAGE
Estimated average annual earnings in 1995	$40,000

Typical Occupations

Finishing Supervisor – Textiles
Food Product Supervisor
Motor Vehicle Assembly Supervisor
Ore Milling Supervisor
Supervisor, Pipeline Operation
Supervisor, Plastic and Rubber Products Manufacturing
Tire Building Supervisor

Nature of the Work

These individuals supervise and coordinate the activities of workers in a number of processing and manufacturing operations, such as metal, chemical, mineral, or food processing, rubber products, furniture and electronics manufacturing, and motor vehicle assembly. Among other duties, they establish methods to meet work schedules and coordinate work activities with other units; resolve problems and recommend measures to improve productivity and product quality. They also requisition materials and supplies; prepare production and other reports; train staff in job duties, safety procedures, and company policy; and recommend personnel actions such as hiring and promotion.

Requirements

- Previous related industry experience is essential for these workers. It is also important to have a thorough knowledge of the related machinery and tools, and a sound background in the properties of the materials being processed or assembled and the procedures being used.
- Most employers require that you have completed high school. Some industry employers may also require the successful completion of related high school courses, such as Mathematics 12, Physics 12, and Chemistry 12.
- Additional training may be required for a supervisory position.

Training Paths

- Training for this type of work is varied; however, most is provided on the job. You usually need the formal training, if any, required for an entry level position plus three to five years' experience in a related junior position to develop the necessary skills and knowledge required of supervisors.
- The Textiles Human Resources Council provides training programs for supervisors in the textiles industry, which are usually taken with your employer's sponsorship.
- Training programs in plastics manufacturing processes are available in Ontario and Quebec.
- Specific training programs for supervisors in seafood processing are available through the National Seafood Sector Council.

Skills and Aptitudes

To work in these occupations, you must be capable of supervising staff, working with teams, communicating effectively, and maintaining production schedules. Problem-solving, technical writing, and computer skills are important. For some occupations, physical stamina may be necessary.

Likely Employers

These supervisors work in a number of different fields. Employers are often in the food, rubber, paper, and transportation equipment industries.

Other Considerations

Most people in these occupations are employed full-time and for the full year. Usually, significant non-supervisory experience in a related occupation and/or additional training are required.

Related Occupations

Central Control and Process Operators in Manufacturing and Processing
Electrical and Electronics Assemblers
Labourers in Processing, Manufacturing, and Utilities
Machine Operators
Machining, Metalworking, Woodworking, and Related Machine Operators
Mechanical Assembler
Other Assembly and Related Occupations
Printing Machine Operators and Related Occupations

For Further Information

Canadian Plastics Industry Association
Atlantic Region
101 Research Dr.
Dartmouth, NS B2Y 4T6
Phone: (902) 424-8670 ext. 143
email: dcross@cpia.ca
www.plastics.ca

National Seafood Sector Council
85 Albert St.
Ottawa, ON K1P 6A4
www.nssc.ca

Textiles Human Resources Council
66 Slater St., Suite 1720
Ottawa, ON K1P 5H1
www.thrc-crhit.org

Sales and Service Occupations

Labour Market Conditions

- **Estimated employment in 2002 ....5460**
- **Estimated change in employment between 2002 and 2007 ....STABLE**
- **Estimated average annual number of job openings...............................70**
- **Estimated rate of unemployment in 2001 ...........SIGNIFICANTLY BELOW AVERAGE**
- **Estimated average annual earnings in 1995.................................$10,000**

Babysitters and Nannies

Typical Occupations

Live-in Caregiver
Parent's Helper

Nature of the Work

Babysitters and nannies care for children on an ongoing or short-term basis. This includes supervising and caring for the children in the absence of a regular caregiver. They may work in the employer's residence and provide for the children's health, physical, and social development. Household duties such as meals and laundry are often included.

Requirements

Although no formal education is required for this work, it is advised that you complete a training program in child care or a related field, as more employers are requesting training and experience. First aid certification and Child Abuse Register check may also be required.

Training Paths

- The Burridge, Kingstec and Cumberland campuses of the Nova Scotia Community College (NSCC) offer a two-year diploma program in Early Childhood Studies. The Early Childhood Studies diploma program provides students with the knowledge and skills necessary for working with infants, toddlers, pre-schoolers, and school-age children in a variety of settings. This program is approved by the Nova Scotia Department of Community Services. To enter, you must have a high school diploma or equivalent. Students are also required to have current First Aid and CPR–Infant and Child, and a clear Criminal Record and Child Abuse Registry Check.
- Programs are also available through private career colleges. Please contact the Private Career Colleges Section, Nova Scotia Department of Education, for information on registered private career colleges and the programs offered.
- Mount Saint Vincent University offers a Bachelor of Applied Arts in Child and Youth Studies, with three areas of specialization. This degree program requires that you successfully complete high school with a minimum of Grade 12 English and Mathematics. Biology and French are recommended as well. A supervised practicum constitutes part of the degree program.

Skills and Aptitudes

To work in this field, you must be patient, understanding, and emotionally supportive. The ability to follow directions and work under supervision is important. You should be sensitive and able to respond in a positive and caring way. Dependability and good judgement are also essential. Good health and physical strength may be necessary for some positions.

Likely Employers

Most babysitters and nannies are employed in private homes or daycare facilities, while others work with health and social service agencies.

Other Considerations

Most workers in these occupations do not work full-time for the entire year, and jobs tend to be seasonal.

Related Occupations

Childhood Educators
School Teachers, School Counsellors, and School Librarians

For Further Information

Canadian Child Care Federation
383 Parkdale Ave., Suite 201
Ottawa, ON K1Y 4R4
www.cfc-efc.ca/cccf

Nova Scotia Department of Education
Private Career Colleges
PO Box 578
Halifax, NS B3J 2S9
pcc.ednet.ns.ca

St. John Ambulance
Nova Scotia Council
88 Slayter St.
Dartmouth, NS B3A 2A6
www.stjohnamb.ns.ca

Labour Market Conditions

Estimated employment in 2002	1280
Estimated change in employment between 2002 and 2007	GROWING
Estimated average annual number of job openings	20
Estimated rate of unemployment in 2001	AVERAGE
Estimated average annual earnings in 1995	$16,000

Bakers

Typical Occupations

Baker
Bakery Supervisor
Head Baker

Nature of the Work

Bakers prepare bread, rolls, muffins, pies, and cakes for sale in retail food stores or for restaurants. They may decorate cakes or other baked goods according to standard patterns or special customer orders. A baker may have to decide on the type and quantity of baked goods to be produced, purchase baking supplies, hire and train baking personnel, and promote sales of baked goods. Bakers may recruit, hire, and supervise other cooks and kitchen staff.

Requirements

There are no formal academic or training requirements to become a baker, although high school completion is usually required. Although you are not required by legislation to be certified as a baker in the Province of Nova Scotia, many Nova Scotia employers require you to hold a Certificate of Qualification. The baker trade is designated for certification only in Nova Scotia. No formal apprenticeship training program is presently available in the province. Contact the Apprenticeship Training Division, Nova Scotia Department of Education, for certification requirements.

Training Paths

There are two entry paths for the occupation of baker.

- You may seek employment and receive on-the-job training. Completion of high school or equivalent is usually required.
- A one-year certificate program in Baking and Pastry Art is available at the Akerley and Strait Area campuses of the Nova Scotia Community College (NSCC). To enter this program, you must have successfully completed high school or equivalent.
- There are also private institutions throughout the province that offer training programs in baking.

Skills and Aptitudes

This work requires initiative, imagination, and creativity. A knowledge of basic nutrition and baking methods is needed. You should understand and apply the rules of hygiene and sanitation. Organization, time management, and the ability to perform under pressure are important. You must have good physical health, stamina, and manual dexterity. You may be required to work shift work and establish good working relationships with a variety of co-workers and customers.

Likely Employers

The majority of bakers are employed in retail trade companies such as bakeries, grocery stores, and other food stores. Others often work in the accommodation and food services industry or in food processing companies.

Other Considerations

Less than half of all bakers work full-time and for the full year.

Related Occupations

Chefs and Cooks
Occupations in Food
  and Beverage Service
Sales and Service Supervisors

For Further Information

Nova Scotia Department of Education
Apprenticeship Training Division
PO Box 578
Halifax, NS B3J 2S9
Phone: 1-800-494-5651
apprenticeship.ednet.ns.ca

Tourism Industry Association
of Nova Scotia
1099 Marginal Rd., Ste 201
Halifax, NS B3H 4P7
www.tians.org

Tourism Human Resource Council
www.tourismhrc.com

Butchers

Labour Market Conditions

- **Estimated employment in 2002.........710**
- **Estimated change in employment between 2002 and 2007.............GROWING**
- **Estimated average annual number of job openings..............................10**
- **Estimated rate of unemployment in 2001 ...........SIGNIFICANTLY BELOW AVERAGE**
- **Estimated average annual earnings in 1995................................$21,000**

Typical Occupations

Retail Butcher
Supermarket Meat Cutter
Wholesale Butcher

Nature of the Work

Butchers cut, trim, and prepare standard cuts of meat, poultry, and fish for sale. They may be required to prepare special displays of meat, poultry, and fish. Butchers must use a number of machines and adhere to strict safety and hygiene regulations.

Requirements

Completion of high school and a diploma or certificate program in meat cutting may be required by some employers, although there are no formal academic requirements for this occupation.

Training Paths

- The Kingstec campus of the Nova Scotia Community College (NSCC) offers a one-year certificate program in Meat Cutting–Retail. You must successfully complete high school or equivalent for entrance.
- On-the-job training in food stores is usually provided for retail butchers and meat cutters.

Skills and Aptitudes

To be a butcher you must have good physical health, physical stamina, and manual dexterity. You must be able to take direction and carry out instructions. You may be required to work shift work and establish good working relationships with a variety of co-workers and customers.

Likely Employers

Almost all butchers work in retail trade companies such as butcher shops and other food retail stores. A few butchers are employed by food processing or wholesale trade companies.

Other Considerations

The majority of workers in this occupation work full-time and for the full year.

Related Occupations

Machine Operators
Sales and Service Supervisors

Chefs and Cooks

Labour Market Conditions

Estimated employment in 2002	6550
Estimated change in employment between 2002 and 2007	GROWING
Estimated average annual number of job openings	210
Estimated rate of unemployment in 2001	ABOVE AVERAGE
Estimated average annual earnings in 1995	$19,000

Typical Occupations

Dietary Cook
Institutional Cook
Master Chef
Pastry Chef
Short Order Cook
Specialist Chef

Nature of the Work

Chefs and cooks plan and direct food preparation, and they prepare a wide variety of foods. They may prepare complete meals, individual dishes, or special meals as instructed by a dietitian or chef. They plan menus, determine size of food portions, estimate food requirements and costs of ingredients and labour, and monitor and order supplies. They are responsible for maintaining food quality standards. Chefs and cooks may recruit, hire, and supervise other cooks and kitchen staff.

Requirements

- Chefs and cooks are generally required to complete high school plus a three-year cook's apprenticeship program, or equivalent training and experience. This occupation is a designated apprenticeship trade in Nova Scotia. Although you are not required by legislation to be certified as a cook in the Province of Nova Scotia, many Nova Scotia employers require you to be a registered apprentice or hold a Certificate of Qualification.
- Executive chefs are usually required to have several years of experience in commercial food preparation, including two years in a supervisory capacity and experience as a chef, sous-chef, or specialist chef.
- Specialist chefs also require several years of experience in commercial food preparation as part of their training requirements.
- Red Seal Trade Certification (allowing for inter-provincial mobility) is available for qualified cooks.

Training Paths

- A one-year certificate program in Cooking is available at many campuses of the Nova Scotia Community College (NSCC). Applicants for this program must successfully complete high school or equivalent for entrance.
- Some employers may provide on-the-job training. To be eligible for apprenticeship, you will require high school completion or an acceptable equivalent. Once you find employment in this field, you should register with the Apprenticeship Training Division of the Department of Education in order to receive credit for your training and work experience. Apprenticeship terms generally range from one to four years in length, depending on your previous training and experience. Training is available both in the classroom and via the Internet. You should consult the Apprenticeship Training Division of the Department of Education for detailed information on educational and entrance requirements.
- Should you be interested in pursuing a training path specifically designed for chefs, the Akerley and Lunenburg campuses of NSCC offer a two-year diploma program in Culinary Arts. The entrance requirement for this program is a high school diploma.
- A Chef de Cuisine certification program is offered through the Canadian Federation of Chefs and Cooks (CFCC). Application requires a journeyman cook certificate or equivalent and at least eight years of industry experience. You should contact the CFCC for additional information.

Skills and Aptitudes

This work requires initiative, imagination and creativity. A knowledge of basic nutrition and cooking methods is needed. You should understand and apply the rules of hygiene, sanitation and occupational safety. Organization, time management, and the ability to perform under pressure are important. You must have good physical health, physical stamina, and manual dexterity. You will be required to establish good working relationships with a variety of co-workers and customers and display a professional attitude.

Likely Employers

Most chefs and cooks work in the accommodation and food services industry. People in this field are also employed by hospitals, other health and social services providers, and educational facilities. Some chefs and cooks work on board ships, in central food commissaries, and at construction and logging sites.

Other Considerations

About one-third of these workers work full-time and for the full year. Because these jobs are heavily influenced by tourism activity, employment levels tend to vary throughout the year and peak in the summer months. Furthermore, a high rate of turnover in these occupations generates numerous job openings for people seeking employment. Earnings can vary significantly depending upon the skills and training of the individual. Also, the type of establishment will have a major impact on the wages paid.

Related Occupations

Bakers
Dietitians and Nutritionists
Sales and Service Supervisors

For Further Information

Canadian Federation of Chefs and Cooks
c/o Sir Guy Secondary School
55 Centrepointe Dr.
Nepean, ON K1N 7G2
www.cfcc.ca

Nova Scotia Department of Education
Apprenticeship Training Division
PO Box 578
Halifax, NS B3J 2S9
Phone: 1-800-494-5651
apprenticeship.ednet.ns.ca

Tourism Industry Association
of Nova Scotia
1099 Marginal Rd., Suite 201
Halifax, NS B3H 4P7
www.tians.org

Tourism Human Resource Council
www.tourismhrc.com

Childhood Educators

Labour Market Conditions

Estimated employment in 2002	3800
Estimated change in employment between 2002 and 2007	GROWING
Estimated average annual number of job openings	60
Estimated rate of unemployment in 2001	ABOVE AVERAGE
Estimated average annual earnings in 1995	$17,000

Typical Occupations

Early Childhood Educator
Early Childhood Program Staff Assistant
Preschool Supervisor
Special Education Assistant
Teacher's Aide

Nature of the Work

Early childhood educators plan and organize activities to encourage the intellectual, physical and emotional growth of children. They lead children in activities; guide and assist children in their development; and discuss the children's progress with their parents. Early childhood educator assistants supervise preschool children in daycare centres and nursery schools, and, under the supervision of an early childhood educator, they lead children in activities to stimulate and develop their intellectual, physical, and emotional growth through storytelling, songs, and creative activities. They also prepare and serve children snacks. Special education assistants may carry out behaviour modification, personal development, and other therapeutic programs under the supervision of professionals such as special education instructors, psychologists, or speech-language pathologists.

Requirements

- A Bachelor's degree or diploma in Early Childhood Education may be required to become a childhood educator or assistant. A Bachelor's degree in Education may also qualify, providing you have sufficient experience and additional training in early childhood practice.
- Teacher assistants who aid students with special needs may be required to have specialized training and experience.
- For a childcare facility to be licensed, the director and at least two-thirds of the staff must have completed one of the training programs or equivalent, listed below. An application to become licensed must be made to the Department of Community Services–Prevention and Childcare Services Section.

Training Paths

- Collège de l'Acadie offers a one-year, part-time Teacher's Aide (Special Education) certificate program and a two-year Early Childhood Education program.
- The Burridge, Kingstec and Cumberland campuses of the Nova Scotia Community College (NSCC) offer a two-year diploma program in Early Childhood Studies. The Early Childhood Studies diploma program provides students with the knowledge and skills necessary for working with infants, toddlers, pre-schoolers, and school-age children in a variety of settings. To enter, you must have a high school diploma or equivalent. Students are also required to have current First Aid and CPR–Infant and Child and a clear Criminal Record Check and Child Abuse Registry Check.
- Programs in early childhood education are also available through private career colleges. Please contact the Private Career Colleges Section, Nova Scotia Department of Education, for information on registered private career colleges and the programs offered.
- Mount Saint Vincent University offers a Bachelor of Applied Arts in Child and Youth Studies, with three areas of specialization. This degree program requires that you successfully complete high school with a minimum of Grade 12 English and Mathematics. Biology and French are recommended as well. A supervised field placement is part of the degree program.
- Training programs for teacher assistants and special education assistants are available through private career colleges.

Skills and Aptitudes

For these occupations, you should enjoy working with children. Good health and physical stamina are needed. You must be patient, imaginative, and resourceful. The ability to communicate ideas in a clear, concise, and pleasant manner is also necessary.

Likely Employers

Most of the people in this field are employed by public or private elementary schools, day-care centres, or nursery schools.

Other Considerations

Approximately half of early childhood educators work full-time.

Related Occupations

Babysitters and Nannies
School Teachers, School Counsellors, and School Librarians

For Further Information

Canadian Child Care Federation
383 Parkdale Ave., Suite 201
Ottawa, ON K1Y 4K4
www.cfc-efc.ca/cccf

Nova Scotia Department of Community Services
PO Box 696
Halifax, NS B3J 2T7
www.gov.ns.ca/coms

Nova Scotia Department of Education
Private Career Colleges
PO Box 578
Halifax, NS B3J 2S9
pcc.ednet.ns.ca

St. John Ambulance
Nova Scotia Council
88 Slayter St.
Dartmouth, NS B3A 2A6
www.stjohnamb.ns.ca

Elemental Sales and Service Occupations

Labour Market Conditions

Estimated employment in 2002	42,940
Estimated change in employment between 2002 and 2007	GROWING
Estimated average annual number of job openings	1030
Estimated rate of unemployment in 2001	AVERAGE
Estimated average annual earnings in 1995	$17,000

Typical Occupations

Bellhop
Grocery Clerks
Parking Lot Attendant
Security Guard
Service Station Attendant
Telemarketer
Toll Booth Attendant

Nature of the Work

This group includes many sales and service occupations that require working with the public and do not require a high level of strength. Cashiers, grocery clerks, and service station attendants must serve customers, receive and record payment, and answer inquiries. Some positions such as telemarketer require soliciting sales. Hospital and other clinic assistants provide assistance with scheduling of users, physical arrangements, and clerical work or record-keeping. Kitchen and food service helpers perform various activities to assist with food preparation and service. People who work as food service counter attendants prepare simple food items and serve customers. Security guards guard property against theft and vandalism, control access to establishments, and maintain order at public events. Light-duty cleaners clean buildings such as offices, hospitals, hotels, and schools. Recreation attendants assist patrons, collect tickets and fees, and supervise the use of recreation and sports equipment. Attendants in accommodation and travel assist travellers with luggage.

Requirements

- There are no formal requirements for most occupations in this group; however, some employers require completion of high school and some experience in the service being provided.
- You must be at least sixteen years of age to work in these fields.
- In-house training as a security guard for private companies or institutions may be provided on the job.
- Private guards for hire are required to obtain a licence from the Policing and Victim Services division of the Department of Justice.

Training Paths

- Most training for these positions is provided on the job.
- The Truro campus of the Nova Scotia Community College (NSCC) offers a one-year Protective Security certificate program. High school completion or the equivalent is required to enter the program. You must also reach the age of 19 by April prior to program graduation. You will be required to authorize a criminal record check and to supply a current medical certificate stating that you are capable of strenuous physical activity. Previous experience in security, law enforcement, or other supervisory capacities is considered an asset.

Skills and Aptitudes

To work in these occupations, you should have good health, physical stamina, and manual dexterity. You must also be able to work on your own and carry out instructions given by a supervisor. Sales and service workers are expected to work evenings, weekends, and holidays.

Likely Employers

About half of the people in these occupations are employed by various retail trade companies. Others work within hotels and restaurants and hospitals.

Other Considerations

Only about one-quarter of the workers in these occupations work full-time and for the full year. Work in these occupations tends to be seasonal, with employment levels peaking in the summer months.

Related Occupations

Occupations in Food and Beverage Service
Occupations in Tourism, Travel, and Accommodations
Other Occupations in Protective Service
Retail Sales Persons and Sales Clerks
Sales and Service Supervisors

For Further Information

Nova Scotia Department of Justice
Policing and Victim Services
PO Box 7
Halifax, NS B3J 2L6
www.gov.ns.ca/just

Nova Scotia Restaurant and Food Services Association
1161 Hollis St., Suite 106
Halifax, NS B3H 2P6

Tourism Industry Association of Nova Scotia
1099 Marginal Rd., Suite 201
Halifax, NS B3H 4P7
www.tians.org

Tourism Human Resource Council
www.tourismhrc.com

Labour Market Conditions

Estimated employment in 2002	890
Estimated change in employment between 2002 and 2007	GROWING
Estimated average annual number of job openings	10
Estimated rate of unemployment in 2001	SIGNIFICANTLY BELOW AVERAGE
Estimated average annual earnings in 1995	$39,000

Firefighters

Typical Occupations

Fire Equipment Worker
Fire Inspector
Firefighter Lieutenant
Industrial Firefighter

Nature of the Work

In addition to fighting fires, this group of workers conducts fire prevention activities and assists in other emergencies. They also provide first aid and other assistance; ensure proper operation and maintenance of firefighting equipment; identify fire hazards and advise on appropriate steps toward fire prevention; train to maintain a high level of physical fitness; and may supervise and coordinate the work of other firefighters.

Requirements

Completion of high school is required. You may also be required to complete a program in Fire Protection Technology or a related field, and have experience as a volunteer firefighter. Physical agility, strength, fitness, and vision requirements must be met through successful completion of screening tests. You must also pass an entrance exam and a medical exam to be eligible to work in this field. Several years of experience are required for senior firefighters, such as lieutenants and chiefs.

Training Paths

- Training for firefighters is ongoing and occurs both on and off the job. The Nova Scotia Firefighters School in Waverley offers upgrading courses in all areas of firefighting and rescue operations. These courses may be sponsored by an employer.
- Employment in this field is also available with the Canadian Forces, who provide their own training programs. You should consult the Canadian Forces Recruiting Centre for information on training programs and entrance requirements.

Skills and Aptitudes

To work as a firefighter, you must be in excellent health and physical condition. Mental alertness, courage, and mechanical aptitude are necessary. You must be able to perform under stress, react quickly, and be willing to take risks. Leadership and problem-solving skills are needed, as well as the ability to cooperate in a team effort.

Likely Employers

Nearly all firefighters in Nova Scotia are employed by municipal, provincial or federal government departments.

Other Considerations

Most people in these occupations are employed full-time and for the full year. Most paid employment exists in the more heavily populated areas of the province, while smaller communities rely more upon volunteer firefighters. Firefighting is one of the most hazardous occupations, involving risk of injury and death.

Related Occupations

Emergency Medical Technicians
Managers in Emergency
and Protective Service

For Further Information

Canadian Forces Recruiting Centre
Scotia Square
5251 Duke St., Suite 502
Halifax, NS B3J 1N9
www.recruiting.dnd.ca

Halifax Regional Fire
& Emergency Service
PO Box 1749
Halifax, NS B3J 3A5
www.region.halifax.ns.ca/Fire

Nova Scotia Firefighters School
PO Box 309
Waverley, NS B0N 2S0
www.nsfs.ns.ca

Funeral Directors and Embalmers

Labour Market Conditions

- **Estimated employment in 2002.........270**
- **Estimated change in employment between 2002 and 2007.............GROWING**
- **Estimated average annual number of job openings...............................10**
- **Estimated rate of unemployment in 2001...........SIGNIFICANTLY BELOW AVERAGE**
- **Estimated average annual earnings in 1995.................................$34,000**

Typical Occupations

Cremator
Funeral Attendant
Mortician
Undertaker

Nature of the Work

Funeral directors coordinate and arrange all aspects of funeral services. Activities may include consulting with the family of the deceased regarding the nature of the funeral service and funeral costs; overseeing the preparation of the remains; planning and scheduling funeral services; coordinating burials and cremation and completing legal documents; and managing funeral home operation, including hiring and directing staff, maintaining financial records, preparing accounts, and ordering merchandise. Embalmers prepare human remains for funerals and burials. Activities may include performing cosmetic and restorative work on the remains, and supervising embalming staff.

Requirements

- Licensing by the Board of Registration of Embalmers and Funeral Directors is mandatory for this type of work.
- To become an embalmer, you must successfully complete a one-year Funeral Services course and a fourteen-month apprenticeship program, and pass both a written exam and a clinical exam at the end of your training. This exam is administered by the Board of Registration of Embalmers and Funeral Directors.
- To become a funeral director, you can either complete a Funeral Services course and a six-month apprenticeship or a twelve-month apprenticeship under the direction of a licensed funeral director. In both cases, you must pass both a written and practical exam at the end of your apprenticeship term.
- A valid driver's license is usually required.

Training Paths

A one-year certificate program in Funeral Services is offered at the Kingstec campus of the Nova Scotia Community college (NSCC). Admission requirements include a high school diploma or equivalent; 40 hours of observation at a funeral home under a licensed funeral director; valid driver's licence; and a valid first aid certificate (or during first term). A personal interview may be required. Upon completion of this program, the graduate is eligible to begin service training for a Funeral Director's Licence and an Embalmers Licence at a licensed funeral home in Atlantic Canada.

Skills and Aptitudes

Funeral directors and embalmers should be comfortable working with the deceased. You must be understanding, sympathetic, and able to comfort people in times of distress. Patience, emotional stability, and maturity are essential. You must show tact and consideration at all times, even if called at irregular hours.

Likely Employers

Almost all individuals in this field are employed by funeral homes and mortuaries.

Other Considerations

Most people in these occupations are employed full-time and for the full year. Employment levels are fairly stable from year to year, as the level of funeral activity does not vary significantly with economic conditions. Job openings are likely to be limited due to the small size of these occupations and the limited potential for growth.

Related Occupations

Human Services Workers
Social Workers, Counsellors, and Probation Officers

For Further Information

Nova Scotia Board of Registration of Embalmers and Funeral Directors
PO Box 2723
Halifax, NS B3J 3P7

Nova Scotia Licensed Embalmers and Funeral Directors Association
Attn: Norma Boudreau
General Delivery
633 Lower Rd.
Arichat, NS B0E 1A0
Phone: (902) 226-3301

Hairstylists, Estheticians, and Related Occupations

Labour Market Conditions

Estimated employment in 2002	4510
Estimated change in employment between 2002 and 2007	GROWING
Estimated average annual number of job openings	120
Estimated rate of unemployment in 2001	SIGNIFICANTLY BELOW AVERAGE
Estimated average annual earnings in 1995	$17,000

Typical Occupations

Barber
Cosmetician
Electrologist
Hair Colour Technician
Pedicurist
Weight-loss Consultant

Nature of the Work

People in these occupations advise and assist customers with physical appearance. Hairstylists cut and style hair, and perform related services. They may suggest hair styles that suit a client's physical features or determine a style from a client's instructions and preferences. They shampoo and rinse hair; apply bleach, tint, dye, or rinses to colour hair; analyze hair and scalp conditions and provide basic treatment; or advise on beauty care treatments.

Estheticians give facial and other skin treatments, including removal of unwanted hair from a client's face or body. Image consultants advise clients on general appearance and manner, including hairstyle, make-up and clothing. They may work as wedding consultants, advising clients on many aspects of a wedding. They may also work as weight-loss consultants, who administer commercial weight-loss programs, and advise clients on diet and exercise, or provide related support services.

Requirements

- Completion of high school plus college or beauty school programs for cosmeticians, estheticians, electrologists, manicurists, and pedicurists are required. Skin care specialists and manicurists require provincial licensure.
- Specialized training courses for colour consultants, make-up and skin care consultants, and weight-loss consultants may be required along with some experience and expertise in fashion, art, and modeling.
- The occupation of hairstylist is a designated apprenticeship trade in Nova Scotia.
- Red Seal trade certification (allowing for interprovincial mobility) is available to qualified hairstylists.
- Most hairdressers have either a General or Master's License, but the minimum requirement for this work is a Junior Certificate, which is issued after passing an exam given by the Cosmetology Association of Nova Scotia. There are no such requirements for barbers.
- To qualify for a Junior Certificate, you must complete 1,250 hours of training under the direct supervision of a Master Hairdresser Instructor and pass a theoretical and practical exam given by the Cosmetology Association of Nova Scotia. An additional 960 hours of work experience will qualify you for a General License. A Master's License is available to those who have held a General License for at least two years.

Training Paths

- A one-year certificate program in Cosmetology is provided at a number of campuses of the Nova Scotia Community College (NSCC). This provides training in the fundamental skills and theory of the hairdressing field. To enter, you must successfully complete high school or the equivalent.
- Training programs in most of the occupations listed above are also offered by many private training schools across the province. Hairdressing courses range from nine months to two years in length.
- Special licenses for facials and manicures are available following appropriate training and exams.
- Upon successful completion of a program, graduates may secure employment in the occupation and register with the Apprenticeship Training Division.

Skills and Aptitudes

For this work, you must have good manual dexterity, imagination, and creativity. Good communication, organization, and interpersonal skills are definite assets. You should be tactful, patient, and able to follow directions closely. You must be in good health. Business skills are a definite asset.

Likely Employers

Almost all estheticians work in the personal and household services sector or within retail trade companies such as salons.

Other Considerations

About half of the people in these occupations are employed full-time and for the full year. Self-employment is common for these occupations. Earnings for people in these occupations are often supplemented by tips or gratuities. Therefore, an individual's income will likely depend upon their ability to attract and maintain a group of clients.

This work usually occurs in clean, pleasant surroundings with good lighting and comfortable temperatures. The work can be tiring and physically demanding. Hairdressers and estheticians must be on their feet for long periods of time. This work is often carried out during evenings and weekends, when salons are busiest.

For Further Information

Cosmetology Association of Nova Scotia
75 MacDonald Ave., Unit 9
Dartmouth, NS B3B 1S5

Nova Scotia Department of Education
Apprenticeship Training Division
PO Box 578
Halifax, NS B3J 2S9
Phone: 1-800-494-5651
apprenticeship.ednet.ns.ca

Insurance and Real Estate Sales Occupations and Buyers

Labour Market Conditions

- **Estimated employment in 2002 ....3570**
- **Estimated change in employment between 2002 and 2007 ....STABLE**
- **Estimated average annual number of job openings 30**
- **Estimated rate of unemployment in 2001 ..........SIGNIFICANTLY BELOW AVERAGE**
- **Estimated average annual earnings in 1995................................$33,000**

Typical Occupations

Commercial or Residential Real Estate Salesperson
Insurance Agents and Brokers
Real Estate Broker
Retail and Wholesale Buyer

Nature of the Work

Insurance agents and real estate sales people act as representatives for the sale of services or goods. They respond to clients' inquiries, assist clients to assess their needs and resources, provide a market analysis, and promote sales. They assist prospective buyers in making offers of purchase. They draw up sales agreements, and they must ensure that all forms are properly filled out and policy requirements are met. They study market reports and advise clients on market conditions, prices, legal requirements, and related matters. Duties of real estate brokers include supervision of the sales team and ensuring that real estate transactions comply with regulatory requirements. Retail and wholesale buyers buy merchandise for resale by retail and wholesale firms. They are usually responsible for the merchandising plan for their goods.

Requirements

- Completion of high school, on-the-job training, licensing courses, and industry-sponsored courses and training programs are generally required.
- Licensing by Service Nova Scotia and Municipal Relations–Financial Institutions Section is required to become an insurance agent or broker in Nova Scotia.
- Real estate salespersons must apply for licensing through the Nova Scotia Real Estate Commission.
- To become a real estate broker, you would require at least two years' experience as a salesperson. A Bachelor's degree in an area such as Commerce or Business Administration is an asset.
- Retail and wholesale buyers are usually required to have a high school diploma, a Bachelor's degree or diploma in Business Administration, Marketing or a related program, and experience as a sales supervisor or sales representative.

Training Paths

- Many universities throughout the province offer Bachelor's degree programs in Commerce and Business Administration. Some universities and colleges also offer diploma and certificate programs in various areas of business. To enter the Bachelor's degree or diploma programs, you must successfully complete Grade 12.
- There are many industry-related academic and training programs offered on the job for insurance agents. These courses are usually sponsored by the employer. Generally, you must be working in the industry to be eligible for entrance. To qualify for licensing as an insurance agent, you must successfully complete the pre-licensing examinations (life, accident and sickness) with a pass mark of 75% for each exam. The study material is available from the Life Underwriters Association of Canada.
- Real estate brokers and salespersons may qualify for licensing by successfully completing the real estate salesperson's or broker's licensing course and examination (pass mark of 70%). Usually two years of successful employment as a salesperson is required before becoming licensed as a real estate broker. This material is available from the Nova Scotia Real Estate Association or the Nova Scotia Real Estate Commission. You should contact a local insurance company for details on available on-the-job programs and entrance requirements.

Skills and Aptitudes

To work in this field you need excellent communication and negotiation skills. The ability to analyze complex information accurately and quickly is necessary for decision-making. Computer skills would be a definite asset.

Likely Employers

Most people in this field are either employed by real estate companies or are in the insurance industry. A small number of these individuals work for companies in retail or wholesale trade.

Other Considerations

The majority of workers in these occupations work full-time and for the full year. Increased competition in the insurance industry will likely result in a reduction in the number of businesses. Therefore, job opportunities may be limited for some of these occupations. Real estate activity is closely related to economic conditions in the area. Consequently, employment levels may vary substantially from one year to the next.

Related Occupations

Administrative Occupations
Assessors and Appraisers
Insurance Adjusters and Underwriters
Investment Professionals
Managers in Financial, Communications, and Other Business Services

For Further Information

Insurance Brokers Association of Nova Scotia (IBANS)
2 Lakeside Park Drive, Unit 9C
Halifax, NS B3T 1L7
www.ibans.com

Insurance Institute of Nova Scotia
100 Main St., Suite 250
PO Box 1561
Dartmouth, NS B3J 1P3

Nova Scotia Real Estate Association
7 Scarfe Court
Burnside Industrial Park
Dartmouth, NS B3B 1W4
Phone: (902) 468-2515

Nova Scotia Real Estate Commission
7 Scarfe Court
Burnside Industrial Park
Dartmouth, NS B3B 1W4
www.nsrec.ns.ca

Service Nova Scotia
and Municipal Relations
Licensing Section
PO Box 1003
Halifax, NS B3J 2X1
www.gov.ns.ca/snsmr

Occupations in Food and Beverage Service

Labour Market Conditions

Estimated employment in 2002	7770
Estimated change in employment between 2002 and 2007	GROWING
Estimated average annual number of job openings	160
Estimated rate of unemployment in 2001	ABOVE AVERAGE
Estimated average annual earnings in 1995	$14,000

Typical Occupations

Banquet Server
Bartender
Food and Beverage Server
Maitre d'hotel
Restaurant Host/Hostess

Nature of the Work

These occupations include workers who serve food and beverages. Activities may include greeting patrons; presenting menus; making recommendations and answering questions about food and beverages; taking the patrons' orders and serving them; preparing and serving specialty foods at patrons' tables; preparing drinks; maintaining inventory and control of bar stock; and presenting bills and accepting payment. Food and beverage service workers are on their feet most of the time and often have to carry heavy trays of food, dishes, and glassware.

Requirements

- While previous related work experience is a main requirement for these jobs, more employers are looking for people with at least a high school diploma.
- Educational training in the hospitality industry and knowledge of a second language are definite assets.
- Completion of courses in mixing drinks is usually required for bartenders.

Training Paths

- Some on-the-job training is generally provided for these occupations. Employers may sponsor training through industry associations, such as the Tourism Industry Association of Nova Scotia.
- Several campuses of the Nova Scotia Community College (NSCC) offer diploma and certificate programs related to the hospitality and tourism industry.
- A one-year certificate program concentrating on Food and Beverage Service is offered at the Akerley, Kingstec, Pictou, and Strait Area campuses of the NSCC. Admission requires high school completion.
- Mount Saint Vincent University, University College of Cape Breton (UCCB), and NSCC also offer related programs for those with an interest in supervisory and management positions.
- A two-year diploma program in Hospitality Services is offered at the Burridge, Lunenburg, and Akerley campuses of the NSCC. High school completion is required.
- Many universities, colleges, and private institutions throughout the province offer courses or programs in a second language.

Skills and Aptitudes

To work in these occupations, you should be friendly, well-spoken, well-groomed, and enthusiastic about the service. Good organizational and mathematical skills are necessary. You must be pleasant to both your customers and co-workers, even when working under pressure. The ability to remember details and orders is essential. You must also be able to move gracefully and quickly. Knowledge of a second language is an asset.

Likely Employers

Most people in these occupations are employed by companies in the accommodation and food and beverage service industry, such as hotels, restaurants, and caterers.

Other Considerations

Only about one-quarter of workers in these occupations work full-time and for the full year. Many are employed for only part of the year or work part-time. Because these jobs are heavily influenced by tourism activity, employment levels tend to vary throughout the year and peak in the summer months. Also, many job openings are created each year as workers in these occupations change jobs. However, due to the limited entry requirements, there are often many people available to fill these positions.

They may work forty hours or more per week, and many are expected to work evenings, weekends, and holidays. Tips usually supplement the wages of people employed in these occupations.

Related Occupations

Chefs and Cooks
Managers in Retail, Tourism, and Other Service Industries
Occupations in Tourism, Travel, and Accommodations
Sales and Service Supervisors

For Further Information

Nova Scotia Restaurant and Food Services Association
1161 Hollis St., Suite 106
Halifax, NS B3H 2P6

Tourism Industry Association of Nova Scotia
1099 Marginal Rd., Ste 201
Halifax, NS B3H 4P7
www.tians.org

Tourism Human Resource Council
www.tourismhrc.com

Labour Market Conditions

- **Estimated employment in 2002 ....2400**
- **Estimated change in employment between 2002 and 2007............GROWING**
- **Estimated average annual number of job openings..............................40**
- **Estimated rate of unemployment in 2001..........................ABOVE AVERAGE**
- **Estimated average annual earnings in 1995................................$24,000**

Occupations in Tourism, Travel, and Accommodations

Typical Occupations

Baggage Agent, Airline
Eco-tour Guide
Flight Attendant
Hotel Front Desk Clerk
Hunting Guide
Sightseeing Guide
Travel Counsellor

Nature of the Work

This group includes a variety of occupations that provide assistance to travellers and tourists: advising clients on travel options and tour packages, making reservations, and preparing tickets; promoting tour packages and particular services; or planning and organizing vacation travel for individuals and groups. Tour guides describe points of interest, answer questions, and supply information. Outdoor sport and recreational guides organize and conduct trips or expeditions for sports enthusiasts, tourists, and resort guests. Hotel front desk clerks make room reservations, provide information to guests, and receive payments from guests. Flight attendants greet passengers and ensure their safety and comfort during travel. Pursers coordinate the activities of flight attendants and provide service to passengers during flights. Airline passenger agents prepare and issue tickets, assign seats, prepare boarding passes, check baggage, attend boarding gates, assist pre-boarding passengers, and provide information on fares, flight schedules, and routes. Cargo agents quote fares and rates, and process cargo shipments.

Requirements

- While previous related work experience is an asset for these jobs, employers generally also expect at least a high school diploma. Educational training in the hospitality industry and knowledge of a second language are definite assets. Some on-the-job training is usually provided by the employer for many occupations in this group.
- Travel counsellors are generally required to obtain a diploma or vocational training in travel or tourism and certification with the Canadian Institute of Travel Counsellors (CITC). A Certified Travel Counsellor designation is granted after three years of work experience in the industry and the completion of mandatory courses and examinations. A number of community college programs are recognized by CITC.
- Flight attendants are required to complete high school and a Transport Canada–approved training program. Major airlines will generally provide necessary training to new employees. Air Canada requires that all flight attendants speak at least two languages, have completed high school and have previous work experience, be at least 5'2" in height, and be willing to be posted at any one of six bases in Canada. Flight pursers are required to have experience as a flight attendant.
- Completion of a Front Desk Operations or Hotel Management program is good preparation for employment as a hotel front desk clerk.
- Knowledge of a particular terrain or body of water and demonstrated ability in the guided activity are required to become an outdoor sport and recreational guide, such as a hunting guide. Hunting and fishing guides must also be licensed by the Nova Scotia Department of Natural Resources. Knowledge and understanding of the local environment and wildlife is a good background for eco-tourism.
- Certification may also be available for other occupations in this group. Contact the Tourism Industry Association of Nova Scotia for more information.

Training Paths

- Mount Saint Vincent University offers a one- to two-year certificate in Tourism and Hospitality Management, including a 500-hour practicum; and a four-year Bachelor of Tourism and Hospitality Management degree with a compulsory cooperative education feature. To enter, you must complete high school with Grade 12 Mathematics and English and an overall minimum average of 65%. Applicants with at least six months of work experience in the field will be given preference.
- The University College of Cape Breton (UCCB) offers a three-year Hospitality Administration work/study diploma program. Admission requires high school graduation with five courses at the Grade 12 level, including English 12 and preferably Mathematics 12.
- A two-year diploma program in Hospitality Services is offered at the Burridge, Lunenburg and Akerley campuses of the Nova Scotia Community College (NSCC). The entrance requirement is a high school diploma.
- A one-year certificate program with a concentration in Hospitality Operations is offered at the Pictou campus of the NSCC. Admission requirement is a high school diploma.
- A one-year certificate program with a concentration in Ecotourism is offered at the Truro campus of the NSCC. Admission requirement is a high school diploma.

- Holland College in Prince Edward Island offers a two-year Tourism and Travel Management program. Applicants require high school graduation or the equivalent with either Academic Grade 12 including a minimum of 60% in Grade 12 English and Grade 11 Mathematics; or General Grade 12 with a minimum of 75% in Grade 12 English and Grade 11 Mathematics. This program includes a 20-week industry placement.
- Many universities, colleges, and private institutions throughout the province offer courses and programs in a second language.
- Flight Attendant Training, and Travel and Tourism programs are available through several private career colleges. Contact the Private Career Colleges Section, Nova Scotia Department of Education, for information on registered private career colleges and programs.

Skills and Aptitudes

For this type of work, you should be poised, organized, tactful, and patient. Interpersonal skills and the ability to deal comfortably with strangers are important. You should be resourceful and able to handle the unexpected. Knowledge of the travel business or the specific areas of tourism in which you work will be required. Good communication skills are also necessary. Knowledge of both official languages or an additional language may be required.

Likely Employers

Many people in these occupations work in the air transportation industry. Others are often employed by companies providing accommodations and other services to tourists.

Other Considerations

Nearly half of the workers in these occupations work full-time and for the full year. Because many of these jobs are heavily influenced by tourism activity in Nova Scotia, employment levels tend to vary throughout the year and peak in the summer months. Also, general economic conditions will have an impact on the level of business and pleasure travel undertaken by Nova Scotians. Therefore, employment levels will vary from year to year in many of these occupations.

Related Occupations

Elemental Sales and Service Occupations
Occupations in Recreation and Sports
Other Fishing and Trapping Occupations
Sales and Service Supervisors

For Further Information

Air Canada Centre Zip 264
PO Box 14 000
Dorval (Québec) H4Y 1H4
www.aircanada.ca/about-us/employment

Canadian Institute of Travel Counsellors
755 Eglinton Ave. East, Suite 209
Toronto, ON M4P 1G8
email: info@citc.ca
www.citc.ca

Nova Scotia Department of Education
Private Career Colleges
PO Box 578
Halifax, NS B3J 2S9
pcc.ednet.ns.ca

Nova Scotia Department of Natural Resources
PO Box 698
Halifax, NS B3J 2T9
www.gov.ns.ca/natr

Tourism Industry Association of Nova Scotia
1099 Marginal Rd., Suite 201
Halifax, NS B3H 4P7
www.tians.org

Tourism Human Resource Council
www.tourismhrc.com

Other Occupations in Protective Service

Labour Market Conditions

Estimated employment in 2002	**1060**
Estimated change in employment between 2002 and 2007	**STABLE**
Estimated average annual number of job openings	**10**
Estimated rate of unemployment in 2001	**BELOW AVERAGE**
Estimated average annual earnings in 1995	**$34,000**

Typical Occupations

Correctional Service Officer
Liquor Licence Inspector
Private Investigator
Private Security Officer
Sheriff's Officer

Nature of the Work

These workers in protective service assist with law enforcement for federal, provincial, or municipal governments, or they may be privately employed. The work involves serving civil and criminal documents and summonses, guarding those in custody, transporting offenders, and maintaining order and enforcing by-laws. People in private service conduct private investigations and implement security measures. Observing, preparing reports, and appearing in court are important to this work.

Requirements

- You must successfully complete high school to work in these occupations.
- To become a sheriff's officer, you must have completed Grade 12 and have previous police/military/correctional or security training and/or experience and three years of related experience. Working knowledge of the Sheriffs Act, Costs and Fees Act, Criminal Code, Provincial Statutes and Civil Procedure Rules is required. A valid Nova Scotia driver's licence is also required.
- Completion of a Correctional Officer program, Bachelor's degree in Social Science, and/or Criminology certificate, plus some experience in the field are usually required to become a correctional service officer. Volunteer experience in corrections is a definite asset.
- Correctional service supervisors are required to have experience in an institutional setting.
- Liquor licence inspectors are required to complete high school and may be required to gain experience in a related administrative or regulatory occupation.
- Private investigators must be employed by a private investigation firm or form their own company, and must obtain a licence to practise from the Policing and Victim Services division of the N.S. Department of Justice.
- Private guards for hire are also required to obtain a licence from Policing and Victim Services.

Training Paths

- A one-year certificate program in Protective Security is offered at the Truro campus of the Nova Scotia Community College (NSCC). The entrance requirement is a high school diploma; students must be 19 years old by the time they enter their work placement.
- The Truro campus of the NSCC also offers a two-year diploma program in Human Services, with a second-year concentration in Correctional Services. The entrance requirement is a high school diploma. Students must be 19 years of age; preference is given to mature students. A criminal record check and medical certificate are required.
- There are private schools that offer training in both the corrections and private security areas. Most training is provided on the job; however, previous work experience in a related field is generally required.
- Training to become a private investigator is generally provided on the job under the supervision of an experienced and licensed private investigator. A licence is issued to a private investigator on the basis of experience and training in a related field, such as retail security, and suit ability for the job. You must successfully pass a clearance check and interview prior to being issued a provincial licence. This licence must be renewed every year.
- Sheriff's officers, hired by the Nova Scotia Department of Justice, must possess a valid certificate in CPR and First Aid and a driver's licence, and successfully complete an approved Officers Safety training program. You should contact the Department for more information on training, educational experience, and entrance requirements to work in these fields.

Skills and Aptitudes

To work in these occupations, you should be physically fit and in excellent health, and have a valid driver's licence. Cultural sensitivity, patience, and mental stability are important. You must be resourceful and able to work on your own carrying out instructions given by your employer. It will be necessary to gain a good knowledge of the regulations pertaining to your work. Excellent communication, observation, and problem-solving skills are essential. You should also be able to communicate with and gain the respect of the public. Candidates are required to pass the appropriate background check.

Likely Employers

Most people in these occupations are employed by federal, provincial, or municipal government departments.

Other Considerations

Most workers in these occupations work full-time and for the full year.

Related Occupations

Administrative Officers–Government
Human Services Workers
Police Officers
Social Workers, Counsellors, and Probation Officers

For Further Information

Nova Scotia Department of Justice
Policing and Victim Services
PO Box 7
Halifax, NS B3J 2L6
www.gov.ns.ca/just

Nova Scotia Department of Justice
Court Services Division
PO Box 7
Halifax, NS B3J 2L6
www.gov.ns.ca/just

Nova Scotia Department of Justice
Correctional Services Division
PO Box 7
Halifax, NS B3J 2L6
www.gov.ns.ca/just

Pet Groomers and Animal Care Workers

Labour Market Conditions

Estimated employment in 2002	270
Estimated change in employment between 2002 and 2007	GROWING
Estimated average annual number of job openings	10
Estimated rate of unemployment in 2001	SIGNIFICANTLY BELOW AVERAGE
Estimated average annual earnings in 1995	$16,000

Typical Occupations

Dog Trainer
Kennel Attendant
Laboratory Animal Attendant
Veterinary Attendant
Zoo Attendant

Nature of the Work

Pet groomers and animal care workers feed, handle, train, and groom animals, and assist veterinarians, animal health technologists, and animal breeders. This work may be in animal hospitals, animal shelters, kennels, pet grooming service companies, or laboratories.

Requirements

Completion of high school and training courses in animal handling, grooming, or dog training may be required to work as a pet groomer or animal care worker.

Training Paths

- Training to work in these fields is generally provided on the job.
- You should consult your local animal care agency or veterinarian for more information on courses offered, either through their offices or by private institutions.
- You may be interested in technician training programs offered at the Nova Scotia Agricultural College in Truro. They offer a two-year program in Animal Science and a three-year program in Animal Health. Consult the calendar for more information on the program and entrance requirements.
- A Veterinary Assistant program is available at the Maritime Business College in Dartmouth.
- You might contact a registered groomer or attend Canadian Kennel Club dog shows to obtain more information on training opportunities in this field.

Skills and Aptitudes

This work demands good communication skills and the ability to cooperate with others. You must be able to pay close attention to detail. To work with animals, you must have good manual dexterity and be comfortable working with instruments and technology.

Likely Employers

Most people in this sector work within the agriculture industry.

Other Considerations

Only about one-third work full-time and for the full year.

Other Considerations

Other Medical Technicians
and Technologists
Veterinarians

For Further Information

The Nova Scotia Society for the
Prevention of Cruelty to Animals
Provincial Office
1600 Bedford Hwy, Suite 422
Bedford, NS B4A 1E8
www.spcans.ca

Police Officers

Labour Market Conditions

Estimated employment in 2002	1690
Estimated change in employment between 2002 and 2007	STABLE
Estimated average annual number of job openings	30
Estimated rate of unemployment in 2001	SIGNIFICANTLY BELOW AVERAGE
Estimated average annual earnings in 1995	$48,000

Typical Occupations

Crime Prevention Constable
Highway Patrol Officer
Military Police Officer
Municipal Police Officer
Police Sergeant
RCMP Officer

Nature of the Work

Police officers protect the public, detect and prevent crimes, and perform other activities directed at maintaining law and order. They patrol assigned areas to maintain public safety and to enforce laws and regulations; investigate crimes and accidents, secure evidence, interview witnesses, compile notes and reports, and provide testimony in court; arrest criminal suspects; provide emergency assistance to victims of accidents, crimes, and natural disasters; and participate in crime prevention, public information, and safety programs. Police officers are also involved in community policing, where they work closely with the community to solve problems.

Requirements

- Successful completion of high school with Mathematics 12 or Pre-calculus Mathematics and English 12 is required.
- A valid Nova Scotia or Canadian driver's or chauffeur's licence is also required for most of these occupations.
- To become a municipal police officer, you must be a Canadian citizen, nineteen years of age, be of good health and physical development, undergo a detailed records check for incidents related to criminal behaviour, and meet visual acuity and hearing standards. You require a successful completion of an approved Police Recruit or Police Science program. You must also have a valid First Aid training program, CPR certificate, a keyboard certificate of 25 words per minute, a Red Cross survival swimming course and rescue skills certificate, and a physical ability test and medical examination.
- To apply to become a member of the Royal Canadian Mounted Police (RCMP), you must be a Canadian citizen, be nineteen years of age, be in possession of a valid Canadian driver's licence, be proficient in either official language and be of good character. You must also complete the internal Cadet Training Program and be willing to transfer anywhere in Canada. Although not a requirement, completion of any post-secondary education would be an asset.
- Physical agility, strength, fitness, and vision requirements must be met to work in these occupations.

Training Paths

- Many universities across the province offer Bachelor's degrees or diplomas in Criminology or other social sciences. To enter, you must successfully complete high school, including English 12.
- Holland College in Prince Edward Island offers a program in Police Science (Cadet). The program runs for 32 weeks, including 12 weeks of on-the-job training. Applicants must meet the procedures for police recruiting and selection standards as set out by the Province of Nova Scotia. Minimum academic requirement is completion of Grade 12 with academic courses. Preference will be given to applicants with university or other post-secondary education in a related area.
- The RCMP requires you to successfully complete a six-month RCMP Cadet training program in Regina, Saskatchewan. To be eligible you must complete the RCMP Recruitment Selection Test with a score well above the minimum of 84/145, pass a physical abilities test, be in possession of a valid St. John Ambulance First Aid Certificate and a valid Level C Cardiopulmonary Resuscitation (CPR) Certificate issued by the Canadian Heart Foundation or by St. John Ambulance, have keyboarding/typing skills at 18 words per minute with zero error rate, and score well in a structured interview. No applicant will be interviewed without a valid Physical Abilities Requirement Certificate. This certificate may be gained upon successful completion of the RCMP physical fitness tests.
A successful clearance check is also necessary to gain admission to the program.

Skills and Aptitudes

To work in these occupations, you should be physically fit and in excellent health, and have a valid driver's licence. Cultural sensitivity, patience, and mental stability are important. You must be resourceful, able to give and take orders, and able to make decisions quickly. Excellent communication, observation, and problem-solving skills are essential. You should also be able to communicate with and gain the respect of the public.

Likely Employers

Almost all police officers are either employed by the federal government as RCMP officers or by municipal governments as police officers with municipal police departments.

Other Considerations

Most people in these occupations are employed full-time and for the full year. Earnings will generally increase with the officer's rank and years of service.

Related Occupations

Administrative Officers–Government
Canadian Forces Occupations
Managers in Emergency
  and Protective Services
Social Workers, Counsellors,
  and Probation Officers

For Further Information

Nova Scotia Department of Justice
Policing and Victim Services Division
PO Box 7
Halifax, NS B3J 2L6
Phone: (902) 424-8797
www.gov.ns.ca/just

Royal Canadian Mounted Police
H Division, Staffing and Personnel Office
PO Box 2286
Halifax, NS B3J 3E1
Phone: (902) 426-7640
www.rcmp-grc.gc.ca

Retail Salespersons and Sales Clerks

Labour Market Conditions

- **Estimated employment in 2002.....17,530**
- **Estimated change in employment between 2002 and 2007....GROWING RAPIDLY**
- **Estimated average annual number of job openings 680**
- **Estimated rate of unemployment in 2001 ....BELOW AVERAGE**
- **Estimated average annual earnings in 1995.................................$22,000**

Typical Occupations

Automobile Sales Associate
Car Rental Agent
Clothing Sales Associate
Computer Sales Associate–Retail

Nature of the Work

Sales associates are employed in stores and other retail businesses. They greet customers and discuss the type, quality, and quantity of merchandise; estimate or quote prices, credit terms, trade-in allowances, warranties, and delivery dates; prepare sales contracts and accept payment; assist in the display of merchandise; and maintain sales records for inventory control.

Requirements

- Generally, completion of high school is preferred to gain employment in this field. Knowledge of the product is highly desirable, and may be required for sales of highly technical or expensive merchandise, such as automobiles or computers.
- There are an increasing number of college and university-level retail-specific programs for those interested in developing a career in retail sales.

Training Paths

- Training for these occupations is generally provided on the job.
- It may be appropriate to pursue at least some courses in the area of computers to enhance your abilities in retail sales. Training in business software is available through private career colleges, university, and community college continuing education programs.
- Most campuses of the Nova Scotia Community College (NSCC) offer the first year of a two-year program in Business Administration, with second-year concentrations in different specialties. The second-year program is not offered at all campuses. The Akerley, Kingstec and Pictou campuses of NSCC offer a second-year concentration in Marketing. The entrance requirement to the program is a high school diploma. You should consult the NSCC calendar for details on the various business programs they offer.

Skills and Aptitudes

For this work, you should have good interpersonal and communication skills. Patience, tact, and enthusiasm are important. You must always be alert to the customers' needs and be as helpful and efficient as possible. Basic math skills and product knowledge are also needed. Knowledge of another language, especially French, is an asset.

Likely Employers

Retail salespersons and sales clerks are employed by retail trade companies such as food, department, and drug stores.

Other Considerations

Only about one-third of all people in these occupations work full-time and for the full year. Many positions are filled by part-time employees, who are required to work in the evening and on weekends.

Employment in the retail trade industry is affected by economic conditions; therefore, the availability of jobs varies with the performance of the economy. Earnings vary throughout the year due to the fact that sales clerks are often employed part-time and have their hours increased or decreased according to sales levels. Also, wages are often supplemented with sales commissions.

People in these occupations must be on their feet for long periods of time. Hours of work will depend on the needs of the employer.

Related Occupations

Managers in Retail, Tourism,
and Other Service Industries
Sales and Service Supervisors
Sales Representatives, Wholesale Trade

For Further Information

Nova Scotia Automobile
Dealers Association
6009 Quinpool Rd., Suite 601
PO Box 9410, Station A
Halifax, NS B3K 5S3

Retail Council of Canada
121 Bloor St. East, Suite 121
Toronto, ON N4W 3M5
www.retailcouncil.org

Sales and Service Supervisors

Labour Market Conditions

- **Estimated employment in 2002 ....6400**
- **Estimated change in employment between 2002 and 2007 ....GROWING RAPIDLY**
- **Estimated average annual number of job openings 240**
- **Estimated rate of unemployment in 2001 ...........SIGNIFICANTLY BELOW AVERAGE**
- **Estimated average annual earnings in 1995.................................$23,000**

Typical Occupations

Department Store Supervisor
Food Service Supervisor
Hotel Executive Housekeeper
Laundry Supervisor
Reservations Supervisor
Telemarketing Supervisor

Nature of the Work

These individuals supervise and coordinate a number of staff and activities for government or business. They prepare schedules, assign duties, and establish and implement operational procedures. Supervisors maintain records, and prepare progress and budget reports. They may be required to hire and train new staff, and select and purchase equipment.

Requirements

- Occupations in this category usually require high school completion and experience in the areas being supervised. For example, laundry and dry-cleaning supervisors are required to have experience operating a dry-cleaning or laundry machine.
- Previous retail sales experience, such as a retail sales clerk, cashier, telemarketer, or door-to-door salesperson, is usually required to become a retail supervisor.
- Food service supervisors are required to complete a certificate or diploma program in Food Service Administration or a related discipline. For employment in healthcare institutions, membership in the Canadian Society of Nutrition Management is preferred.
- Executive housekeepers, who direct and control the operations of housekeeping departments within hotels, hospitals and other establishments, may be required to obtain a diploma in Hospital Management or Hotel Management. Extensive experience as a cleaning supervisor may substitute for formal academic requirements. Cleaning supervisors must have previous experience as light-duty cleaners, janitors, or industrial cleaners.
- Other service supervisors, such as tour guide supervisors, may be required to complete college courses related to the areas supervised and have experience in the field.
- You may also find courses or programs in marketing helpful to secure supervisory positions in sales.

Training Paths

- Many universities and Nova Scotia Community College (NSCC) campuses offer programs in Marketing and related areas. These programs require a minimum of high school completion with English 12 to enter.
- Mount Saint Vincent University (MSVU) offers a one- to two-year certificate in Tourism and Hospitality Management, including a 500-hour practicum; and a four-year Bachelor of Tourism and Hospitality Management degree with a compulsory cooperative education feature. To enter, you must complete high school with Grade 12 Mathematics and English and an overall minimum average of 65%. Applicants with at least six months of work experience in the field will be given preference. MSVU also offers a three- to four-year Bachelor of Tourism and Hospitality Management degree program with a cooperative education option.
- The University College of Cape Breton (UCCB) offers a three-year Hospitality Administration work/study diploma program. Admission requires high school graduation with five courses at the Grade 12 level, including English 12 and preferably Mathematics 12. This program is designed to teach students the business management skills relating to front desk, food production, dining room service, beverage management, hospitality marketing, and tourism travel.
- Most NSCC campuses offer the first year of a two-year program in Business Administration, with second-year concentrations in different specialties. The second-year program is not offered at all campuses. The Akerley, Kingstec and Pictou campuses of NSCC offer a second-year concentration in Marketing. Burridge and Marconi campuses offer a second-year concentration in Management.
  The entrance requirement to the program is a high school diploma.
- A number of campuses of the NSCC offer diploma and certificate programs in Tourism and Hospitality. The entrance requirement for all these programs is a high school diploma.
- The Akerley, Burridge and Lunenburg campuses of the NSCC offer a two-year diploma program in Tourism and Hospitality–Management.
- The Akerley, Kingstec, Pictou and Strait Area campuses of the NSCC offer a one-year certificate program in Tourism and Hospitality–Food & Beverage Services concentration.
- The Pictou campus of the NSCC offers a one-year certificate program in Tourism and Hospitality–Hospitality Operations concentration.
- The Truro campus of the NSCC offers a one-year certificate program in Tourism and Hospitality–Ecotourism.

- Programs in Travel and Tourism are available at a number of private career colleges in Nova Scotia. You should contact the Private Career Colleges Section, Nova Scotia Department of Education, for information on registered private career colleges and programs offered.
- Those already employed in a hospital or healthcare establishment may upgrade their qualifications by taking distance education courses through the Canadian Healthcare Association. Courses include Modern Management, Food Service and Nutrition Management, and Quality Management.

Skills and Aptitudes

To work in these areas supervisory, organizational, leadership, and effective communications skills are essential. You must be observant, responsible, and able to enforce rules and regulations. You will be required to resolve problems.

Likely Employers

The majority of sales and service supervisors are employed in retail trade, while others often work in the accommodations, food service, and healthcare industries.

Other Considerations

The majority of workers in these occupations work full-time and for the full year. Employment opportunities will be affected by economic conditions in the area, rising as the economy improves and falling when it declines. People in these occupations should be prepared to keep up with changes in product lines and sales methods. Annual incomes will depend upon many factors, including the product being sold, industry, location, qualifications, and the number of staff being supervised.

Related Occupations

Chefs and Cooks
Elemental Sales and Service Occupations
Occupations in Food and Beverage Service
Occupations in Tourism, Travel, and Accommodations
Retail Salespersons and Sales Clerks

For Further Information

Canadian Healthcare Association
17 York St., Suite 100
Ottawa, ON K1N 9J6
www.canadian-healthcare.org

Canadian Society of Nutrition Management
57 Simcoe St. South, Suite 2G
Oshawa, ON L1H7N1
www.csnm.org

Nova Scotia Department of Education
Private Career Colleges
PO Box 578
Halifax, NS B3J 2S9
pcc.ednet.ns.ca

Nova Scotia Restaurant and Food Services Association
1161 Hollis St., Suite 106
Halifax, NS B3H 2P6

Tourism Industry Association of Nova Scotia
1099 Marginal Rd., Suite 201
Halifax, NS B3H 4P7
www.tians.org

Tourism Human Resource Council
www.tourismhrc.com

Sales Representatives, Wholesale Trade

Labour Market Conditions

- **Estimated employment in 2002 ....5320**
- **Estimated change in employment between 2002 and 2007 ....GROWING**
- **Estimated average annual number of job openings 160**
- **Estimated rate of unemployment in 2001 ...........SIGNIFICANTLY BELOW AVERAGE**
- **Estimated average annual earnings in 1995.................................$35,000**

Typical Occupations

Food Products Sales Representative
Hotel Accommodation Sales Executive
Liquor Sales Representative
Magazine Sales Representative
Security Sales Representative
Transfer Company Agent

Nature of the Work

Sales representatives in non-technical wholesale trade sell goods and services to retail, wholesale, commercial, industrial, and professional clients. They work for organizations that produce or provide goods and services, such as food, beverage, and tobacco producers, manufacturers, hotels, business service firms, and transportation companies. Wholesale trade representatives must identify and solicit potential clients, then prepare presentations on goods or services, including estimates of price, conditions, and delivery date. They must ensure accuracy of details in contracts. The work requires follow-up with clients to provide on-going support and resolve problems. Sales representatives must keep abreast of product innovations, competitors, and market conditions.

Requirements

- Completion of high school and experience in sales or in an occupation related to the product or service are required.
- In some industries a Bachelor's degree or diploma may also be required.
- Supervisors and senior sales representatives are required to have fairly extensive experience in the industry.

Training Paths

- Most universities throughout the province offer Bachelor's degrees and diplomas in Business Administration, Commerce and Marketing.
- Most campuses of the Nova Scotia Community College (NSCC) offer the first year of a two-year program in Business Administration, with second-year concentrations in different specialties. The second-year program is not offered at all campuses. The Akerley, Kingstec and Pictou campuses of NSCC offer a second-year concentration in Marketing. Burridge and Marconi campuses offer a second-year concentration in Management. Kingstec campus offers a second-year concentration in Financial Services. Truro campus offers a second-year concentration in International Business. Halifax campus offers a second-year concentration in Investment Management. A number of campuses offer a second-year concentration in Information Management. The entrance requirement to the programs is a high school diploma.
- A number of campuses of the NSCC offer diploma and certificate programs in Tourism and Hospitality. The entrance requirement for all these programs is a high school diploma.
- The Akerley, Burridge and Lunenburg campuses of the NSCC offer a two-year diploma program in Tourism and Hospitality–Management.
- The Akerley, Kingstec, Pictou and Strait Area campuses of the NSCC offer a one-year certificate program in Tourism and Hospitality–Food & Beverage Services.
- The Pictou campus of the NSCC offers a one-year certificate program in Tourism and Hospitality–Hospitality Operations.
- The Truro campus of the NSCC offers a one-year certificate program in Tourism and Hospitality–Ecotourism.

Skills and Aptitudes

This work requires excellent interpersonal and communication skills. You must be aware of customers' needs and give careful attention to detail.

Likely Employers

Most people in this field are employed by various wholesale trade companies involved with commodities such as machinery and equipment; food and beverages; and hardware and building supplies.

Other Considerations

The majority of workers in these occupations work full-time and for the full year. Earnings will often depend upon the type of product being sold and the volume of sales made. People in these occupations should be prepared to keep up with changes in product lines and sales methods.

Related Occupations

Retail Salepersons and Sales Clerks
Managers in Sales, Marketing and Advertising
Technical Sales Specialists, Wholesale Trade

For Further Information

Tourism Industry Association of Nova Scotia
1099 Marginal Rd., Suite 201
Halifax, NS B3H 4P7
www.tians.org

Tourism Human Resource Council
www.tourismhrc.com

Technical Sales Specialists, Wholesale Trade

Labour Market Conditions

- **Estimated employment in 2002 ....3340**
- **Estimated change in employment between 2002 and 2007.............GROWING**
- **Estimated average annual number of job openings 120**
- **Estimated rate of unemployment in 2001 ...........SIGNIFICANTLY BELOW AVERAGE**
- **Estimated average annual earnings in 1995.................................$43,000**

Typical Occupations

Communication Equipment
Sales Representative
Construction Equipment
Sales Representative
Industrial Supplies Sales Representative
Medical Instrumentation Sales Engineer
Software Sales Representative

Nature of the Work

Technical sales specialists in wholesale trade sell and represent a range of technical goods and services. They identify and solicit potential clients, assess clients' needs and resources, provide input into product design where necessary, and promote sales. They estimate the costs of installing and maintaining equipment, develop proposals, and prepare reports and sales contracts. Technical sales specialists follow up with clients to provide ongoing support and resolve problems.

Requirements

- Completion of a Bachelor's degree or diploma in a program related to the product or service plus experience in sales or in a technical occupation related to the product or service are usually required.
- Technical sales supervisors are required to have experience as technical sales specialists.

Training Paths

- These positions generally require technical knowledge of the product or service being sold.
- Related training is offered at various campuses of the Nova Scotia Community College (NSCC). Certificate and diploma programs such as Business Administration, Construction Administration Technology, Computer Electronics Technician, Electronic Engineering Technician/Technology, Electrical Engineering Technology, Electro Mechanical Technician, Heavy Duty Equipment Repair, Industrial Instrumentation, and Information Technology can provide the technical background ro proceed in a career in technical sales. The usual entrance requirement is a high school diploma. You should consult the NSCC calendar for a full list of programs and entrance requirements.
- Many universities throughout the province also offer technical programs in the areas of computers, engineering and business. For example, for supervisory roles you may find it appropriate to engage in a marketing program such as the Business Technology–Marketing Technology program offered by the University College of Cape Breton (UCCB). This is a three-year cooperative education program which requires high school completion with English 12 for entrance. You should consult other provincial university calendars for details on other related programs.

Skills and Aptitudes

This work requires excellent interpersonal and communication skills. You must be aware of customer's needs and give careful attention to detail. You will be required to gain in-depth knowledge of the products you represent.

Likely Employers

The majority of individuals in this field work in the wholesale trade industry dealing with a wide range of machinery, equipment and supplies. The most common other employers are firms providing business services, those producing chemical products, telecommunications companies, and electrical and electronic products manufacturers.

Other Considerations

Most people in these occupations are employed full-time and for the full year. Earnings will often depend upon the type of product being sold and the volume of sales made. People in these occupations will have to keep abreast of technological changes in the products they sell.

Related Occupations

Retail Salepersons and Sales Clerks
Sales, Marketing,
and Advertising Managers
Sales Representatives, Wholesale Trade

Trades, Transport and Equipment Operators, and Related Occupations

Aircraft Technicians and Inspectors

Labour Market Conditions

- Estimated employment in 2002.........530
- Estimated change in employment between 2002 and 2007 ....STABLE
- Estimated average annual number of job openings..............................10
- Estimated rate of unemployment in 2001 ...........SIGNIFICANTLY BELOW AVERAGE
- Estimated average annual earnings in 1995.................................$39,000

Typical Occupations

Aircraft Engine Repair and Overhaul Technician
Aircraft Inspector
Aircraft Maintenance Technician
Propeller Technician

Nature of the Work

Aircraft technicians maintain and repair aircraft structures and mechanical systems. They troubleshoot these systems to identify problems, and adjust and repair systems according to specifications and established procedures. They dismantle airframes, aircraft engines, or other aircraft systems for repair or overhaul, then reassemble; and they install or modify aircraft engines or other aircraft systems. Aircraft inspectors inspect structural and mechanical systems of aircraft and certify that these systems meet standards of performance and safety. They inspect the work of aircraft mechanics and keep detailed repair, inspection, and certification records and reports.

Requirements

Licensed Aircraft Maintenance Engineers (AMEs) are representatives of the Minister of Transport and have exclusive authority to sign maintenance releases attesting to the integrity of aircraft, aircraft systems, and their components. The AME licensing system differentiates specialized areas with licence category designators, e.g. "M" (Aircraft Maintenance), "E" (Avionics), "S" (Structures), "P" (Propulsion Systems). Prior to issuance of an AME licence, you must complete an approved basic training course, a specified apprenticeship period, and a Transport Canada Regulations exam. Please contact your local Transport Canada Centre (Civil Aviation) for further information.

Training Paths

Holland College offers a number of programs at its Summerside, PEI, campus. Ten-month certificate programs for Aircraft Structural Repair Technician and Aircraft Gas Turbine Engine Repair and Overhaul Technology, and a two-year diploma program in Aircraft Maintenance Technology are available. Admission to these programs requires completion of Grade 12 with Grade 11 or 12 courses in Mathematics and Physics.

Skills and Aptitudes

This work requires excellent spatial and form perception, agility, and coordination. You must be physically fit and have good eyesight and hearing. The ability to follow instructions and perform with a high degree of accuracy is essential. An interest in electronics, machine work, and general mechanics may be helpful.

Likely Employers

Most aircraft mechanics and inspectors work for federal aviation departments (i.e., the Department of National Defence), air transportation providers, and companies that manufacture aircraft and related parts.

Other Considerations

Most people in these occupations are employed full-time and for the full year.

Related Occupations

Contractors and Supervisors, Trades and Related
Mechanical Assemblers
Other Machinery and Transportation Equipment Mechanics
Technical Occupations in Electronics and Electrical Engineering

For Further Information

Canadian Aviation Maintenance Council
955 Green Valley Cres., Suite 305
Ottawa, ON K2C 3V4
www.camc.ca

Transport Canada
Civil Aviation
50 Goudy Dr.
Enfield, NS B2T 1K3
www.tc.gc.ca/atlanticregion

Boilermakers and Structural Metal and Platework Fabricators

Labour Market Conditions

Estimated employment in 2002	210
Estimated change in employment between 2002 and 2007	GROWING RAPIDLY
Estimated average annual number of job openings	10
Estimated rate of unemployment in 2001	SIGNIFICANTLY ABOVE AVERAGE
Estimated average annual earnings in 1995	$32,000

Typical Occupations

Boiler Installer
Boiler Shop Mechanic
Marine Fitter
Platework Fitter
Steel Fabricator

Nature of the Work

Boilermakers fabricate, assemble, erect, and repair boilers; read blueprints or specifications to plan operations; and set up and operate heavy-metal working machines. Marine fitters make and repair structural metal parts for ships, and cut and shape metal for shipbuilding. Platers and structural metal fabricators make metal parts for storage tanks, ships, scaffolding, and other structures made from steel plates, tubes, beams, or similar materials. They lay out patterns on heavy-metal according to specifications; assemble and fit metal plates to form complete units using tack welding, bolting, or other methods; set up and operate metal-working machines, including computer numerical control equipment; and construct patterns and templates as guides for layouts.

Requirements

- Boilermaker, Metal/Steel Fabricator, and Marine Fitter are designated apprenticeship trades in Nova Scotia. Although you are not required by legislation to be certified in these designated occupations in the Province of Nova Scotia, many Nova Scotia employers require you to be a registered apprentice or hold a Certificate of Qualification.
- Red Seal trade certification (allowing for interprovincial mobility) is available for qualified boilermakers, fabricators and fitters.

Training Paths

- You may seek employment and receive on-the-job training for the Boilermaker trade. You would then register as an apprentice with the Apprenticeship Training Division of the Department of Education. In the three-year Apprenticeship Training Program, the employer releases you from regular duties to take periods of technical training, normally in a classroom situation. A certification examination will be given at the appropriate time. Completion of high school or equivalent is usually required.
- A one-year certificate program in Metal Fabricating and Plating is available at the Marconi campus of the Nova Scotia Community College (NSCC). To enter this program you must successfully complete high school or its equivalent.
- Contact the Apprenticeship Training Division for information on certification for the trades of Marine Fitter and Steel Fabricator (Fitter).

Skills and Aptitudes

This work requires a good mechanical aptitude. You must be resourceful and able to make decisions. Good form perception, physical strength, coordination, and agility are important. Those interested in the structural metal fabricating trade should not have any fear of heights and should be able to move quickly.

Likely Employers

Many people in these occupations are employed by the federal government in the Department of National Defence. Others work for companies involved with shipbuilding and repair, construction, the manufacture of steel products, or metal fabrication.

Other Considerations

The majority of people in these occupations work full-time and for the full year. The wage rate for apprentices is usually a percentage of the journeyperson rate, increasing upon completion of each stage of the apprenticeship program.

Related Occupations

Contractors and Supervisors, Trades and Related
Ironworkers, Blacksmiths, and Die Setters
Welders

For Further Information

International Brotherhood of Boilermakers
1216 Sandcove Rd., Suite 139
Saint John, NB E2M 5V8
www.boilermakers.org

Nova Scotia Department of Education
Apprenticeship Training Division
PO Box 578
Halifax, NS B3J 2S9
Phone: 1-800-494-5651
apprenticeship.ednet.ns.ca

Shipbuilding Association of Canada
222 Queen St.
Ottawa, ON K1P 5V9
www.shipbuilding.ca

Labour Market Conditions

- **Estimated employment in 2002.........520**
- **Estimated change in employment between 2002 and 2007.............GROWING**
- **Estimated average annual number of job openings..............................10**
- **Estimated rate of unemployment in 2001............................ABOVE AVERAGE**
- **Estimated average annual earnings in 1995................................$26,000**

Typical Occupations

Brickmason
Chimney Builder
Marble Mason
Restoration Stonemason
Stonecutter

Nature of the Work

Bricklayers lay concrete blocks, bricks, stone, and other similar materials to construct or repair walls and other structures according to blueprints and other specifications.

As well, they build chimneys and fireplaces, line or reline furnaces, construct and install prefabricated masonry units, and build patios, garden walls, and other decorative structures.

Bricklayers

Requirements

- High school graduation and completion of a four-year apprenticeship program are required to become a bricklayer in Nova Scotia. Bricklayer and Restoration Stonemason are designated apprenticeship trades in Nova Scotia. Certification for bricklayers is compulsory.
- Red Seal trade certification (allowing for interprovincial mobility) is available to qualified bricklayers.

Training Paths

- You may seek employment as a bricklayer and receive on-the-job training. You would then register as an apprentice with the Apprenticeship Training Division of the Department of Education. In the Apprenticeship Training Program, the employer releases you from regular duties to take periods of technical training, normally in a classroom situation.

  A certification examination will be given at the appropriate time. Completion of high school or equivalent is usually required.
- Currently, apprenticeship training for Restoration Stonemason is not available in Nova Scotia. Contact the Apprenticeship Training Program for information on certification.

Skills and Aptitudes

This work requires a sense of balance, an eye for line and proportion, and the ability to work with precision. You should be in excellent physical condition, coordinated, and comfortable working at heights. The ability to follow instructions and cooperate with others is important. A good imagination and creative ability are also assets in this trade.

Likely Employers

Most bricklayers are employed in the construction industry.

Other Considerations

Most workers in these occupations work full-time but only for part of the year.

Jobs in the construction industry are strongly affected by seasonal changes and general economic conditions. As a result, workers in these occupations should be prepared for periods of unemployment. Also, many work on a project basis and can expect periods of unemployment throughout the year. The wage rate for apprentices is usually a percentage of the journeyperson rate, increasing upon completion of each stage of the apprenticeship program.

Related Occupations

Contractors and Supervisors,
Trades and Related
Other Construction Trades

For Further Information

Nova Scotia Department of Education
Apprenticeship Training Division
PO Box 578
Halifax, NS B3J 2S9
Phone: 1-800-494-5651
apprenticeship.ednet.ns.ca

Carpenters and Cabinet Carpenters

Labour Market Conditions

Estimated employment in 2002	3390
Estimated change in employment between 2002 and 2007	GROWING
Estimated average annual number of job openings	70
Estimated rate of unemployment in 2001	SIGNIFICANTLY ABOVE AVERAGE
Estimated average annual earnings in 1995	$25,000

Typical Occupations

Cabinetmaker
Carpenter
Custom Wooden Furniture Maker
Woodworker

Nature of the Work

Carpenters construct, erect, install, maintain, and repair buildings, houses, and other structures made of wood, wood substitutes, and other materials. Other activities may include building foundations, installing floor beams, laying subflooring, and erecting walls and roof systems. Cabinet carpenters construct and repair wooden cabinets, furniture, fixtures, and related items. Carpenters and cabinetmakers read and interpret blueprints, drawings, and sketches to determine specifications and calculate requirements; prepare layouts according to building codes using measuring tools; and measure, cut, shape, assemble, and join materials made out of wood, wood substitutes, and other materials.

Requirements

- Completion of high school, college, or industry courses in carpentry with some experience in the trade, or completion of a four-year apprenticeship program, is required to become a carpenter. Carpenter is a designated apprenticeship trade in Nova Scotia. Although you are not required by legislation to be certified in the province of Nova Scotia, many Nova Scotia employers require you to be a registered apprentice or have a Certificate of Qualification.
- To become a cabinetmaker or cabinet carpenter, you require high school, college, or industry courses in cabinet carpentry, and experience in the trade. Cabinet Maker is a designated trade in Nova Scotia.
- Red Seal trade certification (allowing for interprovincial mobility) is also available to qualified carpenters and cabinet carpenters.

Training Paths

- There are two entry paths for the Carpenter trade. You may seek employment and receive on-the-job training. You would then register as an apprentice with the Apprenticeship Training Division of the Department of Education. During the Apprenticeship Training Program, the employer releases you from regular duties to take blocks of technical training, normally in a classroom situation. Carpenter apprenticeship training is also available via the Internet. A certification examination will be given at the appropriate time. Completion of Grade 12 or an acceptable equivalent is necessary to register as an apprentice.
- As an alternative, you could attend a pre-employment program at the Nova Scotia Community College (NSCC). Graduates of the pre-employment program may secure employment in the occupation and register with the Apprenticeship Training Division. Credit may be granted for studies already completed in the pre-employment program.
- A two-year diploma program in Carpentry is offered at many campuses of the NSCC. The entrance requirement is a high school diploma.
- A one-year certificate program in Cabinet Carpentry is offered at the Pictou campus of the NSCC. The entrance requirement is a high school diploma.
- Apprenticeship training is currently not available in Nova Scotia for the occupation of Cabinetmaker. Please contact the Apprenticeship Training Division for information on certification.

Skills and Aptitudes

This work requires good hand-eye coordination, spatial perception, and material handling abilities. You should be in excellent physical condition and be willing to work under adverse weather conditions and at heights from ladders, staging, and rooftops. You must also be able to follow instructions and cooperate with others as part of a team. Some artistic ability is an asset.

Likely Employers

Most people in this field are employed in the construction industry. Other carpenters and cabinetmakers are employed by wood products manufacturers, or as instructors in educational facilities.

Other Considerations

The majority of people in these occupations work full-time but for only part of the year. Jobs in the construction industry are strongly affected by seasonal changes and general economic conditions. As a result, workers in these occupations should be prepared for periods of unemployment. Also, many work on a project basis and can expect periods of unemployment throughout the year. The wage rate for apprentices is usually a percentage of the journeyperson rate, increasing upon completion of each stage of the apprenticeship program.

Related Occupations

Artisans, Craftspersons,
  and Related Occupations
Contractors and Supervisors, Trades
  and Related
Machining, Metalworking, Woodworking,
  and Related Machine Operators

For Further Information

Construction Association of Nova Scotia
260 Brownlow Ave., Unit 3
Dartmouth, NS B3B 1V9
ctca.unb.ca/CANS

Nova Scotia Department of Education
Apprenticeship Training Division
PO Box 578
Halifax, NS B3J 2S9
Phone: 1-800-494-5651
apprenticeship.ednet.ns.ca

United Brotherhood of Carpenters
& Joiners of America, Local 2004
Carpenters Education Centre
6070 Lady Hammond Rd.
Halifax, NS B3K 2R6
www.carpenters.org

Commercial Divers

Labour Market Conditions

Estimated employment in 2002	70
Estimated change in employment between 2002 and 2007	GROWING
Estimated average annual number of job openings	5
Estimated rate of unemployment in 2001	SIGNIFICANTLY ABOVE AVERAGE
Estimated average annual earnings in 1995	$39,000

Typical Occupations

Offshore Diver
Seafood Harvester
Underwater Contractor
Underwater Film Production
Underwater Welder
Underwater Worker

Nature of the Work

Commercial divers perform underwater tasks related to construction, inspection, search, salvage, repair, seafood harvesting, aquaculture, and photography. They perform offshore oil and gas exploration and extraction duties; operate underwater video/film production, sonar, and recording equipment; inspect vessels, buoyancy systems, and pipelines; perform underwater construction duties; set up and detonate explosives; and participate in search and rescue operations. Divers are also required to check and maintain diving equipment.

Requirements

- Completion of a recognized commercial diving school program is required. Divers must also obtain a Certificate in Underwater Skills.
- A provincial blaster's licence for the setting and detonation of explosives is usually required to work as an underwater blaster. Blasters must be certified by the Board of Examiners at the Nova Scotia Department of Environment and Labour, and must be at least nineteen years old.

Training Paths

- Training is available through a one-year certificate program in Underwater Skills at Seneca College in Toronto. Admission requirements include high school completion with Grade 12 Mathematics and English and Grade 11 or 12 Physics; first aid certificate; an advanced Sports Scuba Diving Certificate from an approved organization; and a minimum of 20 hours logged bottom time. Successful applicants must pass an approved commercial diving medical before starting the program. The Underwater Skills program provides introductory training in underwater welding, cutting, and working with explosives.
- Additional specialized training may be provided through your employer.

Skills and Aptitudes

Divers should be adventurous yet cautious, alert, and able to remain calm under stress. Physical stamina and good health may also be necessary. Agility, coordination, and a mechanical aptitude are important.
You must also be able to take direction and carry out instructions given by supervisors.

Likely Employers

The small number of people in this industry are often employed by companies providing diving services or by federal government departments. Other commercial divers are involved with the fishing industry.

Other Considerations

Almost all commercial divers work full-time.

Related Occupations

Canadian Forces Occupations

Construction Millwrights and Industrial Mechanics

Labour Market Conditions

Estimated employment in 2002	1720
Estimated change in employment between 2002 and 2007	STABLE
Estimated average annual number of job openings	10
Estimated rate of unemployment in 2001	AVERAGE
Estimated average annual earnings in 1995	$40,000

Typical Occupations

Construction Millwright
Industrial Mechanic
Maintenance Millwright
Plant Equipment Mechanic
Treatment Plant Mechanic

Nature of the Work

Construction millwrights and industrial mechanics install, maintain, and repair stationary industrial machinery and mechanical equipment. They read diagrams and schematic drawings to determine work procedures; construct foundations for machinery, stationary industrial machinery, and mechanical equipment; assemble machinery and equipment prior to installation; inspect and examine machinery and equipment for irregularities and malfunctions; and perform routine maintenance work on machinery.

Requirements

- Industrial Mechanic (Millwright) is a designated apprenticeship trade in Nova Scotia. Although you are not required by legislation to be certified as an Industrial Mechanic (Millwright) in the Province of Nova Scotia, many Nova Scotia employers require you to be a registered apprentice or have a Certificate of Qualification.
- Red Seal trade certification (allowing for interprovincial mobility) is available to qualified industrial mechanics or millwrights.

Training Paths

- There are two entry paths for the Industrial Mechanic (Millwright) trade. You may seek employment and receive on-the-job training. You would then register as an apprentice with the Apprenticeship Training Division of the Department of Education. In the Apprenticeship Training Program, the employer releases you from regular duties to take blocks of technical training, normally in a classroom situation. A certification exam will be given at the appropriate time. A high school diploma or equivalent is required to register as an apprentice.
- As an alternative, you could attend a pre-employment program at the Nova Scotia Community College (NSCC). Graduates of the pre-employment program may secure employment in the occupation and register with the Apprenticeship Training Division. Credit may be granted for studies already completed in the pre-employment program.
- A one-year certificate program in Industrial Mechanical is available at the Strait Area campus of the NSCC. To enter this program, you must successfully complete high school or its equivalent. A strong background in mathematics is also required.
- The University College of Cape Breton (UCCB) also offers a one-year Industrial Mechanical/Millwright certificate pre-employment program. You should contact UCCB for further information on entrance requirements.

Skills and Aptitudes

To work in this occupation, you should have an interest in electronics and mechanical operations. A strong background in mathematics and the sciences is important. You must be able to cooperate with others and perform routine tasks. Agility, physical strength, and hand-eye coordination are needed. You must also have good vision and hearing, and the inclination to work with tools.

Likely Employers

People in this field work in a variety of different business sectors. Employment is often found with companies engaged in manufacturing, pulp and paper production, food processing, and coal mining.

Other Considerations

The majority of people in these occupations work full-time and for the full year. The wage rate for apprentices is usually a percentage of the journeyperson rate, increasing upon completion of each stage of the apprenticeship program.

Related Occupations

Contractors and Supervisors, Trades and Related
Heavy Duty Equipment Mechanics
Other Machinery and Transportation Equipment Mechanics
Technical Occupations in Electronics and Electrical Engineering

For Further Information

Nova Scotia Department of Education
Apprenticeship Training Division
PO Box 578
Halifax, NS B3J 2S9
Phone: 1-800-494-5651
apprenticeship.ednet.ns.ca

Labour Market Conditions

- **Estimated employment in 2002** 5130
- **Estimated change in employment between 2002 and 2007** ....GROWING
- **Estimated average annual number of job openings** 120
- **Estimated rate of unemployment in 2001** ....AVERAGE
- **Estimated average annual earnings in 1995**.................................$38,000

Contractors and Supervisors, Trades and Related

Typical Occupations

Cable Maintenance and Repair Supervisor
Carpenter Supervisor
Heavy Equipment Operator Supervisors
Machinist Supervisor
Plumbing Contractor
Roofing Contractor
Sheet Metal Worker Supervisor
Welder Supervisor

Nature of the Work

These individuals supervise people who work as machinists, electricians, plumbers, sheet metal workers, carpenters, mechanics, heavy equipment operators, roofers, painters, and others. They establish methods to meet work schedules and coordinate work activities with other departments; order materials and supplies; resolve work problems and recommend ways to improve productivity; recommend hiring and promotions; arrange for training of workers; test, grade, and sample work for quality control; and prepare production and other reports.

Requirements

Contractors and supervisors in these occupations are required to complete high school and obtain several years of experience in the trade or in the work area supervised. College, university, or industry courses in the trade are strongly recommended. Contractors and supervisors are also required to obtain the appropriate trade or journeyperson certificate to work in these occupations.

Training Paths

There are numerous training programs for these trades offered at the Nova Scotia Community College (NSCC) and the University College of Cape Breton (UCCB). Check the relevant occupational descriptions in this handbook for more information regarding specific trades. You normally need an additional three to five years of work experience to become a contractor or supervisor.

Skills and Aptitudes

You must be able to work well with a variety of people. Leadership and effective oral and written communication skills are essential. You must also be able to prepare cost estimates, maintain production schedules, supervise staff, and work as part of a team. You should be prepared to keep up with new techniques, equipment, and materials. Physical stamina and good motor skills are necessary.

Likely Employers

Most individuals in this field are employed in the construction industry; others work in the retail trade and public transportation sectors.

Other Considerations

Most people in these occupations work full-time but often for only part of each year. Jobs in the construction industry are strongly affected by seasonal changes and general economic conditions. As a result, workers in many of these occupations should be prepared for periods of unemployment. Also, many work on a project basis and can expect periods of unemployment throughout the year. Individuals in these occupations usually have significant non-supervisory experience in related occupations.

Labour Market Conditions

- **Estimated employment in 2002** 270
- **Estimated change in employment between 2002 and 2007** .... STABLE
- **Estimated average annual number of job openings** 5
- **Estimated rate of unemployment in 2001** .... SIGNIFICANTLY ABOVE AVERAGE
- **Estimated average annual earnings in 1995** $42,000

Crane Operators

Typical Occupations

Bridge Crane Operator
Construction Crane Operator
Dragline Crane Operator
Mobile Crane Operator
Tractor Crane Operator

Nature of the Work

Crane operators operate cranes or draglines to lift, move, position, or place machinery, equipment, and other large objects. They work at construction or industrial sites, ports, railway yards and other locations. The work may require operating mobile and tower cranes, cranes equipped with dredging attachments, gantry cranes, locomotive cranes, bridge or overhead cranes, offshore oil rig cranes, and cranes mounted on boats or barges. These cranes dredge waterways; drive pillars into the ground to provide support for buildings and other structures; and move, lift and load or unload machinery, equipment, and other materials. Crane operators may perform routine maintenance work such as cleaning and lubricating cranes.

Requirements

- Completion of some high school is generally necessary to work as a crane operator.
- Mobile crane operators are certified by the Nova Scotia Department of Environment and Labour. You must have completed 24 months of mobile crane experience under the direction of a certified mobile crane operator, and you must also pass two exams administered by the Department of Environment and Labour.
- Red Seal trade certification (allowing for interprovincial mobility) is also available to qualified mobile crane operators.

Training Paths

- Generally, training in these occupations is provided on the job under the supervision of experienced workers.
- Mobile Crane Operator is a designated trade for certification purposes only in Nova Scotia. There is currently no apprenticeship training program available for this occupation. You should contact the Department of Environment and Labour for detailed information on certification requirements.
- A crane course is available at Operating Engineers Investment Limited in Dartmouth.

Skills and Aptitudes

To work in these occupations, you should have good health, physical stamina, and strength. Agility, coordination, and mechanical aptitude would be helpful. You must also be able to work at heights, work with precision and detail, take direction, and carry out instructions given by supervisors.

Likely Employers

Crane operators are often employed with businesses involved in industrial and heavy construction, transportation equipment manufacturing, and steel production.

Other Considerations

The majority of people in these occupations work full-time and for the full year.

Related Occupations

Contractors and Supervisors, Trades and Related
Heavy Equipment Operators

For Further Information

Nova Scotia Department of Environment and Labour
Public Safety Division
PO Box 697
Halifax, NS B3J 2T9
www.gov.ns.ca/enla/pubsafe

Drillers and Blasters

Labour Market Conditions

- **Estimated employment in 2002.........120**
- **Estimated change in employment between 2002 and 2007 ....STABLE**
- **Estimated average annual number of job openings 5**
- **Estimated rate of unemployment in 2001 ............SIGNIFICANTLY ABOVE AVERAGE**
- **Estimated average annual earnings in 1995.................................$20,000**

Typical Occupations

Construction Blaster
Construction Driller
Foundation Drill Operator
Surface Mining Blaster
Water Well Driller

Nature of the Work

Drillers operate mobile drilling machines to bore blast holes in open-pit mines and quarries and to bore holes for blasting and for building foundations at construction sites. Blasters in this group fill blast holes with explosives, and detonate explosives to dislodge coal, ore, and rock or to demolish structures. They measure the location and lay out drill patterns; conduct field tests to determine the type and quality of explosives required; assemble primer charges using selected detonators; load explosives; and connect electrical wires. Water well drillers operate a variety of mobile water well drilling rigs and equipment to drill residential, commercial, and industrial water wells. They install, test, maintain, and repair water well pumps, piping systems, and equipment. They also perform pumping tests to assess well performance.

Requirements

- Most employers require that you complete at least some high school, and a high school diploma is preferred. Experience as a heavy equipment operator may be required for you to become a driller.
- Water well drillers may also be required to obtain some work experience in the trade, combined with college or industry courses in water well drilling.
- Blasters may be required to have some experience as blaster helpers in surface mining and quarrying or construction. Blasters must be certified by the Board of Examiners at the Nova Scotia Department of Environment and Labour, and must be at least nineteen years old.

Training Paths

- Training for occupations in this group is received on the job in junior positions under the supervision of a more experienced worker.
- However, the two-year training program in Water Resources Technology, available at the Institute of Technology campus of the Nova Scotia Community College (NSCC), may be helpful in becoming employed as a water well driller, as it emphasizes skills and knowledge for groundwater explorations and supervision of water well drilling programs. Admission requires high school graduation with academic courses in Grade 12 Mathematics, English, and Chemistry, and Grade 11 Physics.
- To become a certified blaster, you must write the entry level exam administered by the Department of Environment and Labour. You may then progress from Entry Level to Class Three based on your work experience and successful completion of the previous class. Self-directed study is required before writing each exam.

Skills and Aptitudes

For these occupations, you should have good physical strength, stamina, and health. The ability to follow precise instructions and obey safety regulations is essential. You must be cautious, responsible, and able to work as a member of a team. A mechanical aptitude and an ability to use tools would be helpful.

Likely Employers

Most drillers and blasters are employed in the construction industry, while others work in mining corporations and quarries.

Other Considerations

Jobs such as this that are closely related to the construction industry are strongly affected by seasonal changes and general economic conditions. As a result, workers in these occupations should be prepared for periods of unemployment. Also, many work on a project basis and can expect periods of unemployment throughout the year.

Related Occupations

Contractors and Supervisors, Trades and Related
Underground Miners, Oil and Gas Drillers, and Related
Supervisors in Primary Industry

For Further Information

Nova Scotia Department
of Environment and Labour
Occupational Health and Safety Division
PO Box 697
Halifax, NS B3J 2T8
www.gov.ns.ca/enla/ohs

Electrical and Telecommunications Line and Cable Workers

Labour Market Conditions

Estimated employment in 2002	540
Estimated change in employment between 2002 and 2007	STABLE
Estimated average annual number of job openings	10
Estimated rate of unemployment in 2001	BELOW AVERAGE
Estimated average annual earnings in 1995	$44,000

Typical Occupations

Communications Cabling Specialist
Electrical Power Cable Installer
Power Line Technician
Telecommunications Cable Repairer
Telecommunications Line Installer
Telephone Line Technician

Nature of the Work

Telecommunications and power line technicians construct, maintain, and repair telecommunication lines and cables or overhead and underground electrical power transmission and distribution systems. Power line technicians erect and maintain steel, wood, or concrete poles, towers, and guy wires. Telecommunications line and cable workers install, remove, maintain, and repair aerial and underground telephone and other telecommunication transmission and distribution lines, cables, and associated hardware. They splice and repair various types of wiring and cables using splicing tools and related electrical equipment and tools. These workers inspect and test overhead and underground lines and cables. To do this they must climb ladders or operate hydraulic buckets when working on poles and towers, or work in confined spaces such as trenches and tunnels.

Requirements

- Completion of high school is generally required for employment in any of these occupations. Telecommunications line and cable workers are also required to have a combination of over three years' work experience in the trade and some industry-related or other specialized courses in electrical technology or electronics. Although you are not required by legislation to be certified in these designated occupations in the Province of Nova Scotia, many Nova Scotia employers may require that you be a registered apprentice or hold a Certificate of Qualification.
- Red Seal trade certification (allowing interprovincial mobility) is available for qualified power line technicians.

Training Paths

- For training as a Power Line Technician, you may seek employment and receive on-the-job training, then register as an apprentice with the Apprenticeship Training Division of the Department of Education to receive credit for your training and experience. The term of apprenticeship is four years. In the Apprenticeship Training Program, the employer releases you from regular duties to take periods of technical training, normally in a classroom situation. A certification exam will be given at the appropriate time. Completion of high school or equivalent is required.
- A one-year certificate program in Utility Line Work–Construction & Maintenance is available at the Marconi campus of the Nova Scotia Community College (NSCC). Applicants must complete high school with Academic Mathematics 12 and have, or be able to obtain, a Class Three driver's licence with air brake endorsement. Final selection will be based on a practical work camp. Please contact NSCC for further information.
- Electrical and electronics programs are available at several universities, NSCC campuses, and the University College of Cape Breton (UCCB). To enter, you require a minimum of high school completion or equivalent. You should contact the Apprenticeship Training Division of the Department of Education for more information.

Skills and Aptitudes

This work requires accuracy, caution, and attention to detail. You must be able to work to precise specifications and levels of safety when installing and repairing cables and power lines. Physical stamina, good hand-eye coordination, and an electrical aptitude are needed. You should also have a strong background in mathematics and the sciences.

Likely Employers

Most of the people in these occupations are employed by MTT, cable and internet service providers, or by Nova Scotia Power.

Other Considerations

Most people in these occupations are employed full-time and for the full year.

Related Occupations

Contractors and Supervisors, Trades and Related
Industrial and Power System Electricians
Telecommunications Equipment Installers and Repairers

For Further Information

Nova Scotia Department of Education
Apprenticeship Training Division
PO Box 578
Halifax, NS B3J 2S9
Phone: 1-800-494-5651
apprenticeship.ednet.ns.ca

Labour Market Conditions

- **Estimated employment in 2002 ....1650**
- **Estimated change in employment between 2002 and 2007..............GROWING**
- **Estimated average annual number of job openings...............................50**
- **Estimated rate of unemployment in 2001............SIGNIFICANTLY ABOVE AVERAGE**
- **Estimated average annual earnings in 1995.................................$36,000**

Electricians

Typical Occupations

Construction Electrician
Electrical Wirer
Electrical-fixtures Installer
House Wirer
Meter Installer

Nature of the Work

Electricians lay out, assemble, install, test, and repair electrical wiring, fixtures, control devices, and related equipment in buildings and other structures. They read and interpret drawings and electrical code specifications to determine wiring layouts for new or existing installations; splice, join, and connect wire to fixtures and components to form circuits; and perform preventive maintenance work.

Requirements

- Construction Electrician is a designated apprenticeship trade in Nova Scotia. Certification is necessary to work in this province.
- Red Seal trade certification (allowing interprovincial mobility) is available to qualified electricians.

Training Paths

- There are two entry paths for the Electrician trade. You may seek employment and receive on-the-job training. You would then register as an apprentice with the Apprenticeship Training Division of the Department of Education. In the Apprenticeship Training Program, the employer releases you from regular duties to take periods of technical training, normally in a classroom situation. Construction and Industrial Electric apprenticeship training are also available via the Internet. A certification exam will be given at the appropriate time. To register as an apprentice in Nova Scotia, you should have successfully completed Grade 12 or an acceptable equivalent of education and experience. The apprenticeship term for Construction Electrician is four years.
- A one-year certificate program in Electrical –Construction & Industrial is available at the Institute of Technology, Kingstec, Lunenburg, and Strait Area campuses of the Nova Scotia Community College (NSCC). The entrance requirement is a high school diploma. A two-year diploma program in Electrical–Construction & Industrial is available at the Strait Area campus of the NSCC. The entrance requirement is an Electrical certificate program or recognized work experience.
- A two-year diploma program in Electro Mechanical Technician is offered at the Marconi and Pictou campuses of the NSCC. The entrance requirement is a high school diploma with Academic Mathematics 12 and Physics 11 (Physics 12 preferred.)

Skills and Aptitudes

This work requires a good mechanical and electrical aptitude. You should have a strong background in mathematics and the sciences. Basic calculation and blueprint-reading skills are needed. You must also be able to follow instructions and be comfortable working with tools. Good eyesight, colour vision, and hand-eye coordination are necessary.

Likely Employers

Most electricians work in the construction industry.

Other Considerations

The majority of people in these occupations work full-time, but often for only part of each year. Jobs in the construction industry are strongly affected by seasonal changes and general economic conditions. As a result, workers in these occupations should be prepared for periods of unemployment. Also, many work on a project basis and can expect periods of unemployment throughout the year. The wage rate for apprentices is usually a percentage of the journeyperson rate, increasing upon completion of each stage of the apprenticeship program.

Related Occupations

Contractors and Supervisors, Trades and Related
Electrical and Telecommunications Line and Cable Workers
Industrial and Power System Electricians
Other Mechanics

For Further Information

International Brotherhood of Electrical Workers
58 McQuade Lake Cres.
Halifax, NS B3S 1B6

Nova Scotia Department of Education
Apprenticeship Training Division
PO Box 578
Halifax, NS B3J 2S9
Phone: 1-800-494-5651
apprenticeship.ednet.ns.ca

Gas Fitters

Labour Market Conditions

- **Estimated employment in 2002..........200**
- **Estimated change in employment between 2002 and 2007..............GROWING**
- **Estimated average annual number of job openings..............................10**
- **Estimated rate of unemployment in 2001..........................ABOVE AVERAGE**
- **Estimated average annual earnings in 1995................................$52,000**

Typical Occupations

Gas Customer Servicer
Gas Fitter
Gas Fitter Apprentice
Gas Servicer

Nature of the Work

Gas fitters install, inspect, repair, and maintain gas lines and gas equipment such as meters, regulators, heating units, and appliances in residential, commercial, and industrial establishments. They may study drawings and specifications to prepare for installation; measure and mark reference points for installation of gas lines and equipment; test and adjust control mechanisms; check pipes and piping connections for gas leaks; attend to gas escape calls and assist in investigation of gas fires and explosions; prepare reports; and advise on standards, safety features, and maintenance of gas units and systems.

Requirements

- Gas Fitter is a designated apprenticeship trade in Nova Scotia. You are required by legislation to be certified as a Gas Fitter in the Province of Nova Scotia.

Training Paths

- Apprenticeship training is available through the Apprenticeship Training Division. Training is available both in a classroom format and via the Internet. You should contact the Apprenticeship Training Division of the Department of Education for more information on certification in the trade of Gas Fitter.
- A one-year certificate program in Gas Installation and Service is offered at the Akerley campus of the Nova Scotia Community College (NSCC). Admission requires high school diploma or equivalent.

Skills and Aptitudes

This work requires a methodical approach, a mechanical aptitude, and an ability to plan ahead. You must be agile, coordinated, and capable of working in cramped and awkward conditions. Patience and the ability to follow instructions are important. You should also be able to cooperate and work well with others on large projects.

Likely Employers

Most gas fitters will be employed by the firm operating as the gas distribution utility in the province. Others will continue to work for businesses engaged in the installation and maintenance of propane gas delivery systems.

Other Considerations

As natural gas becomes widely available to residential, commercial, and industrial users, a greater number of jobs will be created in this occupation.

Related Occupations

Contractors and Supervisors, Trades and Related
Plumbers
Steamfitters, Pipefitters, and Sprinkler System Installers

For Further Information

Nova Scotia Department of Education
Apprenticeship Training Division
PO Box 578
Halifax, NS B3J 2S9
Phone: 1-800-494-5651
apprenticeship.ednet.ns.ca

Heavy Duty Equipment Mechanics

Labour Market Conditions

- **Estimated employment in 2002 ....1260**
- **Estimated change in employment between 2002 and 2007............GROWING**
- **Estimated average annual number of job openings..............................40**
- **Estimated rate of unemployment in 2001 ..........SIGNIFICANTLY BELOW AVERAGE**
- **Estimated average annual earnings in 1995................................$34,000**

Typical Occupations

Construction Equipment Mechanic
Diesel Mechanic
Farm Equipment Mechanic
Heavy Duty Equipment Mechanic
Heavy Mobile Mining Equipment Mechanic
Tractor Mechanic

Nature of the Work

Heavy duty equipment mechanics repair, overhaul, and maintain mobile heavy duty equipment used in construction, forestry, mining, material handling, landscaping, land clearing, farming, and similar activities. They check heavy construction equipment such as bulldozers, cranes, and graders for proper performance. They inspect the equipment for faults and malfunctions; diagnose for faults and estimate the extent of repair; adjust, repair or replace defective parts; and perform routine maintenance work on equipment.

Requirements

- Heavy Duty Equipment Mechanic and Farm Equipment Mechanic are both designated apprenticeship trades in Nova Scotia. Although you are not required by legislation to be certified in these designated occupations in the Province of Nova Scotia, many Nova Scotia employers require you to be a registered apprentice or hold a Certificate of Qualification.
- Red Seal trade certification (allowing for interprovincial mobility) is available to qualified heavy equipment mechanics and farm equipment mechanics.

Training Paths

- There are two entry paths for the Heavy Duty Equipment Mechanic trade. You may seek employment and receive on-the-job training. You would then register as an apprentice with the Apprenticeship Training Division of the Department of Education. In the Apprenticeship Training Program, the employer releases you from regular duties to take periods of technical training, normally in a classroom situation. A certification exam will be given at the appropriate time. Completion of high school or equivalent is usually required. The term of apprenticeship for this occupation is four years.
- As an alternative, you could attend a pre-employment program at the Nova Scotia Community College (NSCC). Graduates of the pre-employment program may secure employment in the occupation and register with the Apprenticeship Training Division. Credit may be granted for studies already completed in the pre-employment program.
- A two-year diploma program in Heavy Duty Equipment Repair is offered at the Akerley, Kingstec, and Pictou campuses of the NSCC. To enter, you must successfully complete high school or its equivalent. Preference will be given to graduates who have high school Mathematics and Physics.
- A one-year certificate program in Diesel Repair–Industrial and Marine is offered at the Lunenburg campus of the NSCC. The entrance requirement is a high school diploma.
- The University College of Cape Breton (UCCB) offers a one-year program in Heavy Duty Equipment Repair–Truck and Transport. To enter, you must have successfully completed high school.

Skills and Aptitudes

To work in this occupation, you should have an interest in electronics and mechanical operations. A strong background in mathematics and the sciences is important. You must be able to cooperate with others and perform routine tasks. Agility, physical strength, and hand-eye coordination are needed. You must also have good vision and hearing, and the inclination to work with tools.

Likely Employers

Employment for heavy duty equipment mechanics can be found across a variety of industries, including wholesale machinery and equipment, transportation, and mining.

Other Considerations

The majority of workers in these occupations work full-time and for the full year. The wage rate for apprentices is usually a percentage of the journeyperson rate, increasing upon completion of each stage of the apprenticeship program.

Related Occupations

Contractors and Supervisors, Trades and Related
Construction Millwrights and Industrial Mechanics
Motor Vehicle Mechanics

For Further Information

Nova Scotia Department of Education
Apprenticeship Training Division
PO Box 578
Halifax, NS B3J 2S9
Phone: 1-800-494-5651
apprenticeship.ednet.ns.ca

Labour Market Conditions

- **Estimated employment in 2002 ....2130**
- **Estimated change in employment between 2002 and 2007 ....STABLE**
- **Estimated average annual number of job openings..............................30**
- **Estimated rate of unemployment in 2001 ............SIGNIFICANTLY ABOVE AVERAGE**
- **Estimated average annual earnings in 1995.................................$30,000**

Heavy Equipment Operators

Typical Occupations

Backhoe Operator
Bulldozer Operator
Excavator Operator
Loader Operator–Construction
Sand Spreader Operator

Nature of the Work

Heavy equipment operators operate heavy equipment used in the construction and maintenance of roads, bridges, airports, gas and oil pipelines, tunnels, buildings, and other structures; in surface mining and quarrying activities; and in material handling work. Public Works maintenance equipment operators operate vehicles and equipment to maintain streets, highways, and sewer systems, or operate garbage trucks to remove garbage and refuse. They must also conduct pre-operational checks on equipment, and clean, lubricate, and refill equipment.

Requirements

- Completion of some high school is generally necessary to work in these occupations. You may also be required to complete college or industry courses related to heavy equipment operation.
- A valid driver's licence appropriate to the specific type of equipment being operated may be required.

Training Paths

- Generally, training for these occupations is provided on the job under the supervision of experienced workers. However, there are courses available in heavy equipment operation at private career colleges that may increase your chances of gaining employment in these areas. Contact the Private Career Colleges Section, Nova Scotia Department of Education, for information on registered privated career colleges and programs offered.

Skills and Aptitudes

To work in these occupations, you should have good health, physical stamina, and strength. Agility, coordination, and a mechanical aptitude would be helpful. You must also be able to take direction and carry out instructions given by supervisors.

Likely Employers

The majority of heavy equipment operators are employed in the transportation and construction industries.

Other Considerations

Almost all heavy equipment operators work full-time, but the majority are employed for only part of each year. Work in these occupations tends to be seasonal, with employment usually peaking in the summer months.

Related Occupations

Contractors and Supervisors, Trades and Related
Crane Operators
Logging Machinery Operators
Motor Vehicle and Transit Drivers

For Further Information

Nova Scotia Department of Education
Private Career Colleges
PO Box 578
Halifax, NS B3J 2S9
pcc.ednet.ns.ca

Service Nova Scotia and Municipal Relations
Registry of Motor Vehicles
PO Box 1652
Halifax, NS B3J 2Z3
www.gov.ns.ca/snsmr

Industrial and Power System Electricians

Labour Market Conditions

Estimated employment in 2002	940
Estimated change in employment between 2002 and 2007	GROWING
Estimated average annual number of job openings	20
Estimated rate of unemployment in 2001	AVERAGE
Estimated average annual earnings in 1995	$41,000

Typical Occupations

Industrial Electrician
Marine Electrician
Mine Electrician
Plant Electrician
Power Station Electrician

Nature of the Work

Industrial and power system electricians install, examine, replace, or repair electrical wiring, receptacles, switch boxes, conduits, transformers, generators, voltage regulators, and other electrical equipment. They maintain, repair, test, and install electrical motors, generators, industrial storage batteries, and hydraulic and pneumatic electrical control systems. Electricians in these settings conduct preventive maintenance programs and keep maintenance records.

Requirements

- Power systems or station electricians are usually required to complete high school and have a combination of up to four years of work experience in the trade and some college or industry courses in electrical technology.
- Industrial Electrician and Mine Electrician are designated apprenticeship trades in Nova Scotia. Although you are not required by legislation to be certified in these designated occupations in the Province of Nova Scotia, many Nova Scotia employers require you to be a registered apprentice or hold a Certificate of Qualification.
- Red Seal trade certification (allowing interprovincial mobility) is available to qualified industrial electricians.

Training Paths

- There are two entry paths for the Industrial Electrician trade. You may seek employment and receive on-the-job training. You would then register as an apprentice with the Apprenticeship Training Division of the Department of Education. In the Apprenticeship Training Program, the employer releases you from regular duties to take periods of technical training, normally in a classroom situation. Construction and Industrial Electric apprenticeship training are also available via the Internet. A certification exam will be given at the appropriate time. To register as an apprentice in Nova Scotia, you should have successfully completed Grade 12, or an acceptable equivalent of education and experience. The apprenticeship term for Industrial Electrician is four years.
- As an alternative, you could attend a pre-employment program in the electrical or electrical mechanical technician trades at the Nova Scotia Community College (NSCC). Graduates of the pre-employment program may secure employment in the occupation and register with the Apprenticeship Training Division. Credit may be granted for studies already completed in the pre-employment program.
- Apprenticeship training for the Mine Electrician trade is currently not available in Nova Scotia. Contact the Apprenticeship Training Division for information on certification.
- A one-year certificate program in Electrical –Construction & Industrial is available at the Institute of Technology, Kingstec, Lunenburg, and Strait Area campuses of the NSCC. The entrance requirement is a high school diploma. A two-year diploma program in Electrical–Construction & Industrial is available at the Strait Area campus of the NSCC. The entrance requirement is an Electrical certificate program or recognized work experience.
- A two-year diploma program in Electro Mechanical Technician is offered at the Marconi campus of the NSCC. The entrance requirement is a high school diploma with Academic Mathematics 12 and Physics 11 (Physics 12 is preferred).

Skills and Aptitudes

This work requires a good mechanical and electrical aptitude. You should have a strong background in mathematics and the sciences. Basic calculation and blueprint-reading skills are needed. You must also be able to follow instructions and be comfortable working with tools. Good eyesight, colour vision, and hand-eye coordination are necessary.

Likely Employers

These electricians are employed in a variety of different fields, such as departments of the federal government, shipbuilding and repair outfits, Nova Scotia Power Inc., or coal mining companies.

Other Considerations

The majority of these electricians work full-time and for the full year. The wage rate for apprentices is usually a percentage of the journeyperson rate, increasing upon completion of each stage of the apprenticeship program.

Related Occupations

Contractors and Supervisors, Trades and Related
Electricians
Electrical and Telecommunications Line and Cable Workers

For Further Information

International Brotherhood of Electrical Workers
58 McQuade Lake Cres.
Halifax, NS B3S 1B6

Nova Scotia Department of Education
Apprenticeship Training Division
PO Box 578
Halifax, NS B3J 2S9
Phone: 1-800-494-5651
apprenticeship.ednet.ns.ca

Labour Market Conditions

- **Estimated employment in 2002.........330**
- **Estimated change in employment between 2002 and 2007 ....STABLE**
- **Estimated average annual number of job openings 5**
- **Estimated rate of unemployment in 2001...........SIGNIFICANTLY ABOVE AVERAGE**
- **Estimated average annual earnings in 1995................................$36,000**

Ironworkers, Blacksmiths, and Die Setters

Typical Occupations

Hammersmith
Ironworker
Ornamental Ironworker
Structural Steel Erector
Toolsmith

Nature of the Work

Ironworkers fabricate, erect, hoist, install, repair, and service structural ironwork, precast concrete, concrete reinforcing materials, curtain walls, ornamental iron, and other metals used in the construction of buildings. Blacksmiths forge a variety of metal items, such as tools, chains, wrought-iron fixtures, agricultural implements, and structural components. Die setters set up forging machines, such as forging presses, drop hammers, forging rolls, and upsetters.

Requirements

- Ironworker (Generalist) is a designated apprenticeship trade in Nova Scotia. Although you are not required by legislation to be certified as an Ironworker in the Province of Nova Scotia, many Nova Scotia employers require you to be a registered apprentice or hold a Certificate of Qualification.
- You may be required to complete high school and have several years of experience as a forging machine operator to gain employment as a blacksmith or die setter.
- Red Seal trade certification (allowing for interprovincial mobility) is available to qualified ironworkers.

Training Paths

- Training to become a blacksmith or a die setter is provided on the job under the supervision of an experienced worker.
- For training as an ironworker, you may seek employment and receive on-the-job training, then register as an apprentice with the Apprenticeship Training Division of the Department of Education to receive credit for your training and experience. The term of apprenticeship is four years. In the Apprenticeship Training Program, the employer releases you from regular duties to take periods of technical training, normally in a classroom situation. A certification exam will be given at the appropriate time. Completion of high school or equivalent is required.

Skills and Aptitudes

For this occupation you should have an interest in machines, precision techniques, and processes. You should be capable of working at heights and under exposure to noise and vibration. Physical strength, coordination, and agility are needed. You must have the ability to work systematically, think analytically, and perform basic mathematical calculations. Artistic ability may be an asset.

Likely Employers

People in these occupations mainly work in the construction industry. Other employers include shipbuilding and repair companies, and the federal government.

Other Considerations

Almost all are full-time employees, but the majority of workers in these occupations only work part of the year. There may be exposure to heat, noise, vibration, dust, and odours within the working environment.

Related Occupations

Contractors and Supervisors, Trades and Related
Machining, Metalworking, Woodworking, and Related Machine Operators

For Further Information

Nova Scotia Department of Education
Apprenticeship Training Division
PO Box 578
Halifax, NS B3J 2S9
Phone: 1-800-494-5651
apprenticeship.ednet.ns.ca

Longshore Workers and Materials Handlers

Labour Market Conditions

- **Estimated employment in 2002 ....4350**
- **Estimated change in employment between 2002 and 2007 ....GROWING**
- **Estimated average annual number of job openings 120**
- **Estimated rate of unemployment in 2001 ....AVERAGE**
- **Estimated average annual earnings in 1995.................................$30,000**

Typical Occupations

Coal Handler
Furniture Mover
Longshoreman/woman
Lumber Piler, Building Supplies
Railway Car Loader
Stevedore

Nature of the Work

Longshore workers and materials handlers transfer cargo throughout the dock areas and onto and from ships and other vessels. They handle, move, load, and unload materials, by hand or by using a variety of material-handling equipment. They must operate industrial trucks, tractors, and other mobile equipment; operate winches or other hoisting devices; and operate equipment to transfer bulk materials. They perform other activities such as lashing and shoring cargo aboard ships, opening and closing hatches, cleaning holds of ships, and rigging cargo. They may be required to count, weigh, sort, pack, and unpack cargo as well.

Requirements

There are no formal education or training requirements to work in these occupations, although many employers require that you have at least some high school education.

Training Paths

Training for these occupations is generally provided on the job by the employer, under the supervision of an experienced worker.

Skills and Aptitudes

To work in these occupations, you should have good health, physical stamina, and strength. Agility, coordination, and a mechanical aptitude would be helpful. You must be able to take direction and carry out instructions given by a supervisor.

Likely Employers

People in these occupations are employed in a number of different sectors, such as wholesale and retail trade firms or water and truck transportation companies.

Other Considerations

Although most people in these occupations work full-time, the majority work only part of each year.

Related Occupations

Contractors and Supervisors, Trades
and Related
Crane Operators
Heavy Equipment Operators
Other Transport Equipment Operators

For Further Information

International Longshoremen's Association
ilaunion.org

Machinists, Tool and Die Makers, and Tooling Inspectors

Labour Market Conditions

Estimated employment in 2002	1110
Estimated change in employment between 2002 and 2007	GROWING
Estimated average annual number of job openings	40
Estimated rate of unemployment in 2001	AVERAGE
Estimated average annual earnings in 1995	$35,000

Typical Occupations

Automotive Machinist
Die Finisher
Machine Tool Builder/Integrator
Machining Inspector
Machinist
Mould Maker
Tool and Die Maker
Tooling Inspector

Nature of the Work

Machinists set up and operate a variety of machine tools to cut or grind metal and similar materials into parts or products with precise dimensions. They read and interpret blueprints, charts, and tables, or study sample parts to determine the machine operation to be performed; compute dimensions and tolerances; measure work pieces; and fit and assemble machine parts using hand and power tools. Machinists in large manufacturing facilities and, increasingly, in smaller shops, use computer-controlled metal-cutting systems, such as CNC machine tools. Tool and die makers manufacture and repair custom tools, dies, fixtures, and other devices. They read and interpret specifications; compute dimensions and tolerances; fit and assemble parts; operate a variety of machine tools; and test and inspect completed devices.

Requirements

- Machinist and Tool and Die Maker are designated apprenticeship trades in Nova Scotia. Although you are not required by legislation to be certified in these designated occupations in the Province of Nova Scotia, many Nova Scotia employers require you to be a registered apprentice or hold a Certificate of Qualification.
- Red Seal trade certification (allowing for interprovincial mobility) is available for qualified machinists and tool and die makers.

Training Paths

- Although Tool and Die Maker is a designated trade for certification purposes, there is currently no apprenticeship training for this occupation in Nova Scotia. You should contact the Apprenticeship Training Division of the Department of Education for information on certification requirements.
- There are two entry paths for the Machinist trade. You may seek employment and receive on-the-job training. You would then register as an apprentice with the Apprenticeship Training Division of the Department of Education. In the Apprenticeship Training Program, the employer releases you from regular duties to take periods of technical training, normally in a classroom situation. Machinist apprenticeship training is also available via the Internet. A certification exam will be given at the appropriate time. Completion of high school or equivalent is required for you to be registered as an apprentice. The apprenticeship term for machinists is four years.
- As an alternative, you could attend an appropriate pre-employment program at the Nova Scotia Community College (NSCC). Graduates of the pre-employment program may secure employment in the occupation and register with the Apprenticeship Training Division. Credit may be granted for studies already completed in the pre-employment program.
- A one-year certificate program in Machine Shop is offered at the Kingstec, Pictou, and Institute of Technology campuses of the NSCC. To enter, you must successfully complete high school or its equivalent, with a strong mathematics background.
- University College of Cape Breton (UCCB) offers a one-year Machinist program.
- Graduates of the Machine Shop program or holders of Journeyperson Machinist certification may apply to the one-year diploma program in CNC Machining Technician, offered at the Institute of Technology and Pictou campuses of the NSCC.

Skills and Aptitudes

For these occupations, you should have an interest in machines, precision techniques, and processes. Good hand-eye coordination and agility are needed. You should be comfortable working with tools and able to read mechanical drawings. You must have the ability to work systematically, think analytically, and perform basic mathematical calculations. Employees in automated shops must be comfortable using computer equipment.

Likely Employers

People in these occupations are employed in a variety of different sectors, such as metal product fabrication, aircraft and associated parts companies, pulp and paper firms, federal government departments, or rubber products manufacturers.

Other Considerations

The majority of workers in these occupations work full-time and for the full year. To maintain employment, workers will have to keep abreast of changing technology. In particular, the use of computer-controlled equipment will continue to spread. The wage rate for apprentices is usually a percentage of the journeyperson rate, increasing upon completion of each stage of the apprenticeship program.

Related Occupations

Contractors and Supervisors, Trades and Related
Machining, Metalmaking, Woodworking, and Related Machine Operators

For Further Information

Canadian Tooling & Machining Association
140 McGovern Dr., Unit #3
Cambridge, ON N3H 4R7
www.ctma.com

International Association of Machinists and Aerospace Workers
15 Gervais Dr., Suite 707
North York, ON M3C 1Y8
www.iamaw.org

Nova Scotia Department of Education
Apprenticeship Training Division
PO Box 578
Halifax, NS B3J 2S9
Phone: 1-800-494-5651
apprenticeship.ednet.ns.ca

Motor Vehicle and Transit Drivers

Labour Market Conditions

Estimated employment in 2002	12,610
Estimated change in employment between 2002 and 2007	GROWING
Estimated average annual number of job openings	360
Estimated rate of unemployment in 2001	AVERAGE
Estimated average annual earnings in 1995	$27,000

Typical Occupations

Bus Driver
Chauffeur
Delivery Driver
Taxi Driver
Tractor Trailer Driver
Transit Operator
Truck Driver

Nature of the Work

Truck drivers operate heavy trucks to transport goods and materials over urban, inter-urban, provincial, and international routes. They must oversee all functions of the vehicle such as condition of equipment, loading and unloading, and safety and security of cargo. Transit operators drive buses and operate streetcars, subway trains, and light rail transit vehicles to transport passengers on established routes. They provide passengers with information, collect fares, and ensure passengers' safety. Taxi and limousine drivers drive automobiles and limousines to transport passengers. Chauffeurs drive automobiles and limousines to transport personnel and visitors of businesses, government, or other organizations, or members of private households. These drivers assist passengers with luggage, collect fares, and clean and service their vehicles. All drivers are required to keep records and report delays and mechanical problems.

Requirements

- A valid driver's licence or learner's licence is required, at the appropriate level for the vehicle being driven. Licensing is done by the Service Nova Scotia and Municipal Relations, Registry of Motor Vehicles. Truck drivers must have a clean driving record with no alcohol violations. To become a truck driver, you must be nineteen years of age and have had your driver's licence for two years. While no formal education is required, most companies are looking for a minimum of Grade 12.
- A certified truck driver training course offered by an accredited institution is also highly recommended to gain employment. Air brake endorsement may be required for truck drivers who operate vehicles equipped with air brakes. Drivers of semi-trailers and tractor trailers must have a Class One driver's licence and complete a twelve-week internship program. Driver of tandem axle straight trucks must have a Class Three driver's licence.
- To become a bus driver, you must be nineteen years of age, and have a Class Two driver's licence and one year of driving experience.
- To become a taxi driver, you must be nineteen years of age, and have a Class Four licence and one year of driving experience. You must also pass a medical test.
- For more information regarding driving requirements, you should contact your local Registry of Motor Vehicles.

Training Paths

- Commercial Safety College in Truro and Millennium Safety and Driving Academy in Dartmouth offer a number of courses related to these occupations. You should contact these schools for information on the specific courses available, as well as program lengths and entrance requirements.
- Training in Transportation of Dangerous Goods (TDG) is available through the Nova Scotia Community College (NSCC) and numerous private training organizations. Contact Transport Canada for information on TDG training in your area.

Skills and Aptitudes

To work in these occupations, you should enjoy driving and be able to function under minimal supervision. You must be alert, responsible, and self-motivated. An awareness of safety is important. You must also get along well with people, as drivers often deal directly with customers. For some jobs, you should be willing to drive over extended periods of time and long distances. Long-haul drivers, especially, must have good map-reading skills and remain calm when driving in unfamiliar territory and navigating congested city traffic.

Likely Employers

The majority of motor vehicle or transit drivers work in the transportation sector, mainly with truck transportation companies and public transportation providers. Others are employed by the education sector, the postal and courier industry, and food processing operations.

Other Considerations

Most of the people in this field work full-time.

Related Occupations

Heavy Equipment Operators
Other Transport Equipment Operators
Recording, Scheduling, and Distributing Occupations
Supervisors, Railway and Motor Transportation

For Further Information

Atlantic Provinces Trucking Association
407 Dieppe Blvd.
Dieppe, NB EIA 6P8
Phone: (506) 855-2782
email: dmiller@apta.ca
www.apta.ca

Service Nova Scotia and Municipal Relations
Registry of Motor Vehicles
PO Box 1652
Halifax, NS B3J 2Z3
www.gov.ns.ca/bacs

Transport Canada
45 Alderney Dr., Suite 1415
Dartmouth, NS B2Y 2N6
www.tc.gc.ca

Trucking Human Resource Sector Council
PO Box 243
Kentville, NS B4N 3W4
email: disnor.hrsc@ns.sympatico.ca

Motor Vehicle Body Repairers

Labour Market Conditions

- **Estimated employment in 2002 ....1240**
- **Estimated change in employment between 2002 and 2007............GROWING**
- **Estimated average annual number of job openings.............................30**
- **Estimated rate of unemployment in 2001 ....BELOW AVERAGE**
- **Estimated average annual earnings in 1995.................................$26,000**

Typical Occupations

Automotive Body Mechanic
Automotive Painter
Metal Finisher
Metal Repairer
Motor Vehicle Repairer (Metal and Paint)

Nature of the Work

Auto-body repairers restore damaged body parts and interior finishes. They fill holes and seams; hammer out dents and buckles; remove damaged parts; file and sand surfaces; apply primers and paint to surfaces; and repair and replace interior components.

Requirements

- Motor Vehicle Body Repairer (Metal and Paint) and Automotive Painter are designated apprenticeship trades in Nova Scotia. Although you are not required by legislation to be certified in these designated occupations in the Province of Nova Scotia, many Nova Scotia employers require you to be a registered apprentice or hold a Certificate of Qualification.
- Completion of high school or its equivalent and a three- to four-year apprenticeship program, or a combination of over three years of work experience in the trade and completion of a high school or college automotive body repair program, are usually required to be eligible for trade certification.
- Red Seal trade certification (allowing interprovincial mobility) is available for qualified motor vehicle body repairers and automotive painters.

Training Paths

- There is currently no apprenticeship training program available for Automotive Painter. You should contact the Apprenticeship Training Division of the Department of Education for information on certification requirements.
- There are two entry paths for the Motor Vehicle Body Repairer trade. You may seek employment and receive on-the-job training. You would then register as an apprentice with the Apprenticeship Training Division of the Department of Education. In the Apprenticeship Training Program, the employer releases you from regular duties to take periods of technical training, normally in a classroom situation. A certification exam will be given at the appropriate time. The term of apprenticeship is four years. Completion of high school or an acceptable equivalent is required for you to register as an apprentice.
- As an alternative, you could attend a pre-employment program in motor vehicle body repair at the Nova Scotia Community College (NSCC). Graduates of the pre-employment program may secure employment in the occupation and register with the Apprenticeship Training Division. Credit may be granted for studies already completed in the pre-employment program.
- A two-year diploma program in Automotive Collision Repair & Refinishing is offered at the Akerley campus of the NSCC. To enter, you must successfully complete high school or its equivalent.
- The University College of Cape Breton (UCCB) offers a one-year program in Motor Vehicle Repair–Autobody.

Skills and Aptitudes

You should have mechanical aptitude, as well as patience, reliability, coordination, and agility. Lightness of touch and attention to detail are important. Some physical strength may be needed. This work requires excellent spatial and form perception. You should be able to visualize a finished piece of work from a sketch or brief description.

Likely Employers

Most people in this field work in retail trade companies such as automobile dealers and other motor vehicle repair centres.

Other Considerations

Most people in this occupation work full-time.

Related Occupations

Contractors and Supervisors, Trades and Related
Motor Vehicle Mechanics

For Further Information

Nova Scotia Department of Education
Apprenticeship Training Division
PO Box 578
Halifax, NS B3J 2S9
Phone: 1-800-494-5651
apprenticeship.ednet.ns.ca

Motor Vehicle Mechanics

Labour Market Conditions

Estimated employment in 2002	4020
Estimated change in employment between 2002 and 2007	GROWING
Estimated average annual number of job openings	80
Estimated rate of unemployment in 2001	BELOW AVERAGE
Estimated average annual earnings in 1995	$27,000

Typical Occupations

Automobile Mechanic
Automobile Service Technician
Bus Mechanic
Truck and Transport Mechanic

Nature of the Work

Motor vehicle mechanics and technicians inspect, diagnose, repair, and service mechanical, electrical, and electronic systems and components of cars, buses, and trucks. They may specialize in areas such as brakes, suspension, engine, and fuel systems. Activities include inspecting and testing automotive systems; diagnosing and isolating faults; adjusting, repairing, and replacing parts; operating hand tools and specialized auto repair equipment; performing maintenance service and road tests; and advising customers on vehicle operations. Usually protective clothing, goggles, and safety boots must be worn.

Requirements

- Completion of high school or its equivalent and a four-year apprenticeship program in the trade, or a combination of over four years of work experience and technical training, are required for certification in these trades.
- Automotive Service Technician, Automotive Service Technician (Service Station Mechanic), and Truck and Transport Mechanic are designated apprenticeship trades, in which certification is compulsory. You must be a registered apprentice or have a Certificate of Qualification in these trades. Automotive Service Technician and Truck and Transport Mechanic have four-year apprenticeship terms. The term for Automotive Service Technician (Service Station Mechanic) is two years.
- Red Seal trade certification (allowing for interprovincial mobility) is available to qualified automotive, truck, and transport mechanics.

Training Paths

- There are two entry paths for motor vehicle mechanic occupations. You may seek employment and receive on-the-job training. You would then register as an apprentice with the Apprenticeship Training Division of the Department of Education. In the Apprenticeship Training Program, the employer releases you from regular duties to take periods of technical training, normally in a classroom situation. Automotive Service Technician apprenticeship training is also available via the Internet. A certification exam will be given at the appropriate time. Completion of high school or an acceptable equivalent is required.
- As an alternative, you could attend a pre-employment program in motor vehicle repair at the Nova Scotia Community College (NSCC). Graduates of the pre-employment program may secure employment in the occupation and register with the Apprenticeship Training Division. Credit may be granted for studies already completed in the pre-employment program.
- A one-year certificate program in Motor Vehicle Repair–Mechanical is offered at the Akerley, Burridge, Institute of Technology, Kingstec, Lunenburg, and Pictou campuses of the NSCC. Admission requires a high school diploma or equivalent.
- Graduates of this program or an equivalent may apply for the one-year diploma program in Automotive Service Technology at the NSCC Institute of Technology Campus. This program focuses on the use of high-tech diagnostic equipment to identify faults and repair automobiles.
- A one-year program in Automotive Service Technician is offered at the University College of Cape Breton (UCCB). To enter, you must successfully complete high school or its equivalent.
- For those interested in pre-employment training in bus, truck, and transport mechanics, there is a one-year certificate program in Heavy Duty Equipment Repair offered at the Akerley, Kingstec, and Pictou campuses of the NSCC. To enter, you must successfully complete high school or its equivalent.

Skills and Aptitudes

You should have mechanical aptitude, as well as patience, reliability, coordination, and agility. Lightness of touch and attention to detail are important. Some physical strength may be needed. Strong skills in mathematics and computers will also be helpful.

Likely Employers

Most motor vehicle mechanics are employed in retail trade businesses such as service stations, automobile dealers, and other motor vehicle repair centres.

Other Considerations

The majority of these workers work full-time and for the full year. The wage rate for apprentices is usually a percentage of the journeyperson rate, increasing upon completion of each stage of the apprenticeship program. As motor vehicles become more complex through the use of advanced electrical and electronic technology, the skills needed to repair these vehicles are changing. Therefore, individuals should be prepared to keep abreast of new developments in automotive technology. In these occupations, you may be exposed to noise and fumes.

Related Occupations

Contractors and Supervisors, Trades and Related
Heavy Duty Equipment Mechanics
Mechanical Assemblers
Motor Vehicle Body Repairers

For Further Information

Canadian Automotive Repair and Service Council (CARS)
9120 Leslie St., Unit 6
Richmond Hill, ON L4P 3J9
www.cars-council.ca

Nova Scotia Department of Education
Apprenticeship Training Division
PO Box 578
Halifax, NS B3J 2S9
Phone: 1-800-494-5651
apprenticeship.ednet.ns.ca

Other Construction Trades

Labour Market Conditions

- **Estimated employment in 2002 ....1960**
- **Estimated change in employment between 2002 and 2007 ....GROWING**
- **Estimated average annual number of job openings 40**
- **Estimated rate of unemployment in 2001 ....ABOVE AVERAGE**
- **Estimated average annual earnings in 1995 ....$28,000**

Typical Occupations

Cement Finisher
Floor Covering Installer
Glazier
Heat and Frost Insulator
Roofer
Sheet Metal Workers
Tilesetter

Nature of the Work

Cement finishers and tilesetters cover interior and exterior walls, floors, and ceilings with various types of tile or mosaics. Roofers install and repair flat roofs and roofing tiles on sloped roofs. Glaziers install glass in residential, commercial, and industrial buildings, on exterior walls of buildings and other structures, and in vehicles, furniture, and other products. Insulators apply insulation materials to plumbing, heating, cooling, and refrigeration systems, piping equipment and pressure vessels, walls, floors, ceilings, and other structures.

Floor covering installers install carpet, wood, linoleum, vinyl, and other resilient floor coverings in residential, commercial, industrial, and institutional buildings. Sheet metal workers fabricate, assemble, install, and repair sheet metal products. They read drawings and sketches; draft patterns; lay out, measure, and mark sheet metal; operate light metalworking machines and laser equipment; fit, join, shape, and form sheet metal parts; and inspect product quality.

These workers often assist other tradespersons.

Requirements

- All of these occupations are designated apprenticeship trades in Nova Scotia. Although you are not required by legislation to be certified in these designated occupations in the Province of Nova Scotia, many Nova Scotia employers require you to be a registered apprentice or hold a Certificate of Qualification.
- Red Seal trade certification (allowing for interprovincial mobility) is available for cement finishers, floor covering installers, glaziers, insulators (heat and frost), roofers, sheet metal workers, and tile setters.

Training Paths

- Cement Finisher, Floor Covering Installer, Glazier, and Roofer are designated apprenticeship trades; however, there are currently no apprenticeship training programs available for these occupations. You should contact the Apprenticeship Training Division of the Department of Education for information on certification requirements.
- For training as a Sheet Metal Worker, you may seek employment and receive on-the-job training, then register as an apprentice with the Apprenticeship Training Division of the Department of Education to receive credit for your training and experience. The term of apprenticeship is four years. In the Apprenticeship Training Program, the employer releases you from regular duties to take periods of technical training, normally in a classroom situation. A certification exam will be given at an appropriate time. Completion of high school or equivalent is required.

Skills and Aptitudes

For these occupations, you should have physical stamina, agility, and coordination, and be capable of climbing, reaching, crouching, and handling heavy materials. While most of the work is done indoors, you must be willing to work outdoors and at heights. You must be able to perform basic mathematical calculations and read blueprints and drafting specifications.

Likely Employers

Most people in this sector are employed within the construction industry, although some work for companies involved in retail and wholesale trading.

Other Considerations

The majority of workers in these occupations work full-time, but many are employed for only part of the year. Jobs in the construction industry are strongly affected by seasonal changes and general economic conditions. As a result, workers in these occupations should be prepared for periods of unemployment. Also, many work on a project basis and can expect periods of unemployment throughout the year. Work in these occupations tends to be seasonal, with employment peaking in the summer months. The physical demands of this work may make it difficult for people to stay in these jobs for a long time.

Related Occupations

Boilermakers and Structural Metal and Platework Fabricators
Bricklayers
Carpenters and Cabinetmakers
Contractors and Supervisors, Trades and Related
Machining, Metalworking, Woodworking, and Related Machine Operators

For Further Information

Nova Scotia Department of Education
Apprenticeship Training Division
PO Box 578
Halifax, NS B3J 2S9
1-800-494-5651
apprenticeship.ednet.ns.ca

Sheet Metal Workers International Association
Local 409
14 McQuade Lake Cres., Suite 105
Halifax, NS B3S 1B6
www.smwia.org

Other Installers and Repairers

Labour Market Conditions

Estimated employment in 2002	1610
Estimated change in employment between 2002 and 2007	GROWING
Estimated average annual number of job openings	50
Estimated rate of unemployment in 2001	AVERAGE
Estimated average annual earnings in 1995	$26,000

Typical Occupations

Gas Maintenance Worker
Pest Controller
Siding Installer
Tire Repairer
Vending Machine Repairer

Nature of the Work

These individuals install, repair, and maintain parts in a variety of settings. For instance, they may install and service a wide variety of interior and exterior prefabricated products, such as windows, doors, electrical appliances, water heaters, play structures, fences, and septic systems; maintain and repair waterworks equipment and facilities; replace automotive mechanical parts; and inspect buildings and outside areas for pest infestations and spray chemical treatments. These workers are required to determine the type of repair needed, provide estimates, and keep records of work performed.

Requirements

- There are no formal education or training requirements to work in these occupations, although many employers require that you have at least some high school education.
- A valid driver's licence is usually necessary to work in most of these occupations.
- A pesticide applicator's licence from the Department of Environment and Labour is required to work as a pest controller.
- Some occupations require either completion of courses or on-the-job training in particular equipment repair, such as camera, piano, or sewing machine repair.

Training Paths

Training for these occupations is generally provided on the job by the employer, under the supervision of an experienced worker.

Skills and Aptitudes

To work in these trades, you should be in good physical condition and comfortable working outdoors and at varying heights. Basic mathematical skills are needed to make accurate measurements. You must be able to follow instructions and work well with others. The ability to read blueprints is also an asset.

Likely Employers

Most installers and repairers are employed either in the construction sector or with businesses in the automobile sales and service industry.

Other Considerations

Most of these workers are employed full-time.

Other Machinery and Transportation Equipment Mechanics

Labour Market Conditions

Estimated employment in 2002	520
Estimated change in employment between 2002 and 2007	STABLE
Estimated average annual number of job openings	10
Estimated rate of unemployment in 2001	SIGNIFICANTLY BELOW AVERAGE
Estimated average annual earnings in 1995	$36,000

Typical Occupations

Elevator Mechanic
Escalator Repairer
Knitting Machine Mechanic
Railway Carman/Woman
Textile Machines Mechanic

Nature of the Work

This work involves inspection, maintenance, assembly, or building of industrial machinery. Railway carmen/women inspect, maintain, and repair railway passenger and freight cars. Textile machinery mechanics and repairers install, maintain, repair, overhaul, and set up textile machinery such as looms, knitting machines, spinning frames, and carding machines. Elevator constructors and mechanics assemble, install, maintain, and repair freight and passenger elevators, escalators, moving walkways, and other related equipment. These occupations require that you troubleshoot mechanical systems, recommend equipment changes or modifications, evaluate new equipment, and carry out preventive maintenance programs.

Requirements

- Completion of high school is usually required to work in any of these occupations.
- Railway carmen/women are generally required to complete an internal company apprenticeship program or three to four years of on-the-job training.
- Textile machinery operators are required to have up to three years of on-the-job training or several years of experience as a mechanic in other industries. Experience as a textile operator, such as weaver or tufting operator, may also be required.
- Elevator mechanics and repairers are required to have some previous work experience in mechanics or repair, plus on-the-job training in elevator mechanics and repair.

Training Paths

- On-the-job training is generally provided in most of these occupations.
- The University College of Cape Breton (UCCB) and several campuses of the Nova Scotia Community College (NSCC) offer various certificate and diploma programs related to these occupations. You should consult the NSCC and UCCB calendars for more information on program offerings, scheduling, and entrance requirements.

Skills and Aptitudes

To work in these occupations, you should have an interest in electronics and mechanical operations. A strong background in mathematics and the sciences is important. You must be able to cooperate with others and perform routine tasks. Agility, physical strength, and hand-eye coordination are needed. You must also have good vision and hearing, and the inclination to work with tools.

Likely Employers

These types of mechanics are employed mainly in the transportation sector or with businesses in the transportation equipment manufacturing industry.

Other Considerations

The majority of these workers work full-time and for the full year.

Related Occupations

Construction Millwrights and
Industrial Mechanics
Contractors and Supervisors, Trades
and Related
Mechanical Assembler
Welders

For Further Information

Nova Scotia Department
of Environment and Labour
Public Safety Division
PO Box 697
Halifax, NS B3J 2T8
www.gov.ns.ca/enla

Textiles Human Resources Council
66 Slater St., Suite 1720
Ottawa, ON K1P 5H1
www.thrc-crhit.org

Labour Market Conditions

Estimated employment in 2002	1160
Estimated change in employment between 2002 and 2007	GROWING
Estimated average annual number of job openings	30
Estimated rate of unemployment in 2001	AVERAGE
Estimated average annual earnings in 1995	$32,000

Other Mechanics

Typical Occupations

Electrical Mechanic
Electronics Technician (Consumer Products)
Motorcycle Mechanic
Oil Burner Mechanic
Refrigeration and Air Conditioning Mechanic
Small Engine Repairer

Nature of the Work

These individuals install, repair, test, and service electrical equipment such as air conditioning and refrigeration systems; oil, coal, and wood heating systems; domestic electrical and electronic appliances such as televisions and VCRs; electric motors and transformers; and motor scooters, motorcycles, and snowmobiles. They cut, strip, fit, and solder wires; replace wire and defective parts; analyze faults with test instruments; and make adjustments and replacements on-site, in a shop, or in a factory, using a variety of hand and power tools and specialized equipment. They determine estimates of repair cost and advise customers on condition of equipment and work to be performed.

Requirements

- Oil Burner Mechanic and Refrigeration and Air Conditioning Mechanic are compulsory certified trades in Nova Scotia. You must be a registered apprentice or hold a Certificate of Qualification to be employed in these trades.
- Appliance Service Technician, Electrical Rewind Mechanic, Electronics Technician (Consumer Products), and Motorcycle Mechanic are designated trades for certification purposes only in Nova Scotia. Although you are not required by legislation to be certified in these designated occupations in the Province of Nova Scotia, many Nova Scotia employers require you to be a registered apprentice or hold a Certificate of Qualification.
- Red Seal trade certification (allowing interprovincial mobility) is available for these trades.

Training Paths

- There are two entry paths for the Oil Burner Mechanic and Refrigeration and Air Conditioning Mechanic trades. You may seek employment and receive on-the-job training. You would then register as an apprentice with the Apprenticeship Training Division of the Department of Education. In the Apprenticeship Training Program, the employer releases you from regular duties to take periods of technical training, normally in a classroom situation.
  A certification exam will be given at the appropriate time. Completion of high school or equivalent is required to register as an apprentice. Apprenticeship terms are three years for the trade of Oil Burner Mechanic and four years for Refrigeration and Air Conditioning Mechanic.
- As an alternative, you could attend a pre-employment program at the Nova Scotia Community College (NSCC) or the University College of Cape Breton (UCCB). Graduates of the pre-employment program may secure employment in the occupation and register with the Apprenticeship Training Division. Credit may be granted for studies already completed in the pre-employment program.
- The Marconi campus of the NSCC offers a one-year certificate program in Refrigeration & Air Conditioning. Admission requires a high school diploma or equivalent.
- A two-year diploma program in Heating, Ventilation, Air Conditioning/Refrigeration is offered at the Institute of Technology campus of the NSCC. Admission requires high school completion, with an academic mathematics and science background preferred.
- Appliance Service Technician, Electrical Rewind Mechanic, Electronics Technician (Consumer Products), and Motorcycle Mechanic are designated trades in Nova Scotia; however, there are currently no apprenticeship training programs available for these occupations. You should contact the Apprenticeship Training Division of the Department of Education for information on certification requirements.
- The Akerley campus of the NSCC offers a two-year diploma in Appliance Service Technology. Admission requires a high school diploma or equivalent.
- A two-year diploma in Electro Mechanical Technician is offered at the Pictou and Marconi campuses of the NSCC. Admission requires high school graduation with Mathematics 12 and Physics 11 or 12.
- A two-year diploma in Electronic Engineering Technician is offered at the Institute of Technology, Kingstec, Lunenburg, Marconi, and Pictou campuses of the NSCC. Admission requires Grade 12 graduation with Mathematics 12, or a Pre-technology Certificate, or equivalent.
- The Institute of Technology and Kingstec campuses of NSCC offer one-year certificate programs in Outdoor Power Equipment–Motorcycle and Outdoor Power Equipment–Marine. Admission requires high school graduation or equivalent.

Skills and Aptitudes

This work requires an understanding of the principles of electricity and a mechanical aptitude. You should be able to follow instructions and perform detailed work.
A strong background in mathematics and the sciences is important. You should also have physical strength, stamina, and the ability to work at heights.

Likely Employers

About half of these other mechanics are employed in the construction industry. Others are employed by companies that provide repair services, or by retailers selling appliances and other goods which often require repairs.

Other Considerations

The majority of these workers work full-time and for the full year. Workers may be self-employed and provide services as needed to their clients. Therefore, earnings may vary throughout the year and depend upon the person's ability to attract and maintain customers.

Related Occupations

Contractors and Supervisors, Trades and Related
Electrical and Electronics Assemblers
Industrial and Power System Electricians

For Further Information

Nova Scotia Department of Education
Apprenticeship Training Division
PO Box 578
Halifax, NS B3J 2S9
Phone: 1-800-494-5651
apprenticeship.ednet.ns.ca

Other Trades and Related Occupations

Labour Market Conditions

Estimated employment in 2002	300
Estimated change in employment between 2002 and 2007	GROWING
Estimated average annual number of job openings	10
Estimated rate of unemployment in 2001	AVERAGE
Estimated average annual earnings in 1995	$26,000

Typical Occupations

Clock Repairer
Jeweller
Locksmith
Shoe Repairer
Watch Repairer

Nature of the Work

Shoe repairers repair footwear, and shoemakers make specialized and custom shoes and boots. Jewellers and related workers in this group fabricate, assemble, repair, and appraise fine jewellery. Watch repairers and related workers in this group repair, clean, adjust, and fabricate parts for clocks and watches. Gunsmiths and locksmiths may repair and modify firearms or repair, install, and adjust locks. People who work in these or other areas of repair must estimate repair costs and discuss repair with customers.

Requirements

Generally, you must complete high school and may be required to have completed a college program in watch repair or jewellery to become a watch repairer or jeweller. There are currently no formal training or certification requirements to enter any of the other occupations in this group.

Training Paths

- Workers in these occupations normally receive on-the-job training under the supervision of experienced workers. Correspondence courses may be available through trade associations.
- The Nova Scotia College of Art and Design (NSCAD) offers a Bachelor of Fine Arts in Jewellery Design and Metalsmithing. To enter, you must have successfully completed high school and the first two years of study within the Bachelor of Fine Arts (Interdisciplinary) program at NSCAD. You should contact the College for more detailed information on the program and entrance requirements.
- You should contact potential employers or trade associations for information.

Skills and Aptitudes

For these occupations, you should enjoy working with intricate mechanical and electrical parts. A delicate touch and attention to detail are essential. You must be patient and capable of precise and exact work. Good eyesight, motor skills, and hand-eye coordination are also necessary.

Likely Employers

People in these occupations are often employed by companies in various service industries, retail trade firms, and organizations providing personal and household services.

Other Considerations

Most people in these occupations are employed full-time. Self-employment is common in this occupation and nearly half work in their own business.

Related Occupations

Artisans, Craftspersons,
and Related Occupations

For Further Information

Canadian Jewellers Association
27 Queen St., East, Suite 600
Toronto, ON M5C 2M6
www.canadianjewellers.com

National Locksmith Association of Canada
283 Wilson St. East, Suite 112
Ancaster, ON L9G 2B8

Other Transport Equipment Operators

Labour Market Conditions

Estimated employment in 2002	700
Estimated change in employment between 2002 and 2007	GROWING RAPIDLY
Estimated average annual number of job openings	50
Estimated rate of unemployment in 2001	SIGNIFICANTLY ABOVE AVERAGE
Estimated average annual earnings in 1995	$35,000

Typical Occupations

Airport Ramp Attendant
Charter Boat Operator
Loading Bridge Operator
Ordinary Seaman/Woman
Railway Track Maintenance Worker
Railway Yard Worker
Small Craft Operator

Nature of the Work

This group is made up of many workers who operate equipment in the transport industry. Air transport ramp attendants operate ramp-servicing vehicles and equipment, handle cargo and passengers, and perform other ground support duties at airports. Boat operators operate small boats or crafts to transport passengers or freight, sort and transport logs, or perform other duties. Railway yard workers regulate yard traffic, couple and uncouple trains, and perform related yard activities. Loading bridge operators operate lock gates, bridges, and similar equipment. They also operate telecommunication equipment; control flow of passengers and their vehicles; and collect passage fare. Railway track maintenance workers operate machines and equipment to lay, maintain, and repair railway tracks. They operate railway machines and equipment used for maintaining railways; clean and make minor repairs to railway maintenance machines; and patrol assigned track sections to identify and report damaged or broken track.

Requirements

- Railway yard workers are required to have a Level "B" certificate of the Canadian Rail Operating Rules.
- Boat operators are required to obtain a Master of a Small Craft or Master of a Small Passenger Craft certificate, issued by Transport Canada. To receive either of these certificates, you need at least six months of sea service, a letter from your employer, and the successful completion of three exams. You must also pass a vision test.
- Airport ramp attendants are usually required to have a driver's licence and a good driving record.
- There are no formal education or training requirements to work in the other occupations, although many employers require that you have some experience in the trade and at least some high school education.

Training Paths

Training for these occupations is generally provided on the job by the employer, under the supervision of an experienced worker.

Skills and Aptitudes

To work in these occupations, you should have good health, physical stamina, and strength. Agility, coordination, and a mechanical aptitude would be helpful. You must be able to work methodically, take direction, work as a member of a team, and carry out instructions given by supervisors. On occasion, protective clothing, goggles, and safety boots must be worn. In these occupations, you may be exposed to noise and fumes. You must get along well with people, as workers in these occupations often deal directly with the public. For some jobs, you should be willing to travel for extended periods of time and long distances.

Likely Employers

About half of the transport equipment operators are employed by departments of the federal government, while others often work for water, air, or rail transportation companies.

Other Considerations

The majority of these workers work full-time and for the full year.

Related Occupations

Deck and Engineer Officers, Water Transport
Fishing Vessel Masters, Skippers, and Fishers
Longshore Workers and Materials Handlers
Supervisors, Railway and Motor Transportation
Train Crew Operating Occupations

For Further Information

Institute of Railway Technology
#214 905 1st Ave. South
Lethbridge, AB T1J 4M7
email: irt-itf@railcan.ca
www.irtcanada.net

Transport Canada
45 Alderney Dr., Suite 1415
Dartmouth, NS B2Y 2N6
www.tc.gc.ca

Painters and Decorators

Labour Market Conditions

Estimated employment in 2002	980
Estimated change in employment between 2002 and 2007	STABLE
Estimated average annual number of job openings	20
Estimated rate of unemployment in 2001	SIGNIFICANTLY ABOVE AVERAGE
Estimated average annual earnings in 1995	$23,000

Typical Occupations

Construction Painter
House Painter
Maintenance Painter
Painter and Decorator
Wallpaper Hanger

Nature of the Work

Painters apply paint, wallpaper, and related materials to the interior and exterior of buildings and other structures. They determine quantities and provide cost estimates; advise customers on colour schemes; assemble and erect scaffolding; remove old finishes; prepare and clean surfaces by scraping, sanding, and steamcleaning; repair cracks and holes; mix paint to produce desired colour and texture; and apply materials using brushes, rollers, and spray equipment. In this occupation, you may be exposed to fumes and be required to work at heights.

Requirements

- Painter and Decorator is a designated trade in Nova Scotia. Although you are not required by legislation to be certified as a Painter and Decorator in the Province of Nova Scotia, many Nova Scotia employers require you to be a registered apprentice or hold a Certificate of Qualification.
- Red Seal trade certification (allowing for interprovincial mobility) is available to qualified painter/decorators.

Training Paths

Currently an apprenticeship training program is being developed for this occupation. You should contact the Apprenticeship Training Division of the Department of Education for information on certification requirements.

Skills and Aptitudes

This work requires patience and an eye for detail. You must be agile, coordinated, and in good physical condition. Some basic math skills are necessary for the accurate measurement and application of paint and wall coverings. Artistic ability is a definite asset.

Likely Employers

Most painters and decorators are employed by businesses in the construction sector.

Other Considerations

Most people in these occupations work full-time. About one-quarter of the people in this occupation are self-employed. Jobs in the construction industry are strongly affected by seasonal changes and general economic conditions. As a result, workers in these occupations should be prepared for periods of unemployment. Also, many work on a project basis and can expect periods of unemployment throughout the year.

Related Occupations

Contractors and Supervisors, Trades and Related

For Further Information

Construction Association of Nova Scotia
260 Brownlow Ave., Unit 3
Dartmouth, NS B3B 1V9
ctca.unb.ca/CANS

Nova Scotia Department of Education
Apprenticeship Training Division
PO Box 578
Halifax, NS B3J 2S9
Phone: 1-800-494-5651
apprenticeship.ednet.ns.ca

Plaster and Drywall Installers

Labour Market Conditions

Estimated employment in 2002	560
Estimated change in employment between 2002 and 2007	GROWING
Estimated average annual number of job openings	10
Estimated rate of unemployment in 2001	ABOVE AVERAGE
Estimated average annual earnings in 1995	$30,000

Typical Occupations

Ceiling Installer
Drywall Finisher
Lather
Sheetrock Applicator
Stucco Mason

Nature of the Work

Plasterers apply coats of plaster to interior and exterior walls, ceilings, and building partitions to produce plain or decorative surfaces. Lathers install support framework and ceilings, drywall, partitions, soundproofing, and vapour barriers. Drywall installers and finishers install and finish drywall sheets and various types of ceiling systems.

Requirements

- Lather (Interior Systems Mechanic) is a designated trade in Nova Scotia. Although you are not required by legislation to be certified as a Lather (Interior Systems Mechanic) in the Province of Nova Scotia, many Nova Scotia employers require you to be a registered apprentice or hold a Certificate of Qualification.
- Red Seal trade certification (allowing for interprovincial mobility) is available to qualified lathers.

Training Paths

- There is currently no apprenticeship training program for the Lather trade available in Nova Scotia. You should contact the Apprenticeship Training Division of the Department of Education for information on certification requirements.
- A one-year certificate program in Carpentry is available at a number of Nova Scotia Community College (NSCC) campuses.

Skills and Aptitudes

To work in this trade, you should be in good physical condition and comfortable working at varying heights. Basic mathematical skills are needed to make accurate measurements. You must be able to follow instructions and work well with others. The ability to read blueprints is also an asset. Organizational and management skills would be helpful for promotion to supervisor.

Likely Employers

Almost all plaster and drywall installers work in the construction industry.

Other Considerations

Most people in these occupations work full-time. Over one-quarter are self-employed. Most jobs in the construction industry are affected by seasonal changes and general economic conditions. Furthermore, many work on a project basis. Consequently, workers in these occupations should be prepared for periods of unemployment. However, since plaster and drywall installers are less affected by weather conditions, they enjoy steadier work throughout the year than do other construction workers.

Related Occupations

Contractors and Supervisors, Trades
and Related
Carpenters and Cabinet Carpenters

For Further Information

Construction Association of Nova Scotia
260 Brownlow Ave., Unit 3
Dartmouth, NS B3B 1V9
ctca.unb.ca/CANS

Nova Scotia Department of Education
Apprenticeship Training Division
PO Box 578
Halifax, NS B3J 2S9
Phone: 1-800-494-5651
apprenticeship.ednet.ns.ca

Plumbers

Labour Market Conditions

Estimated employment in 2002	1130
Estimated change in employment between 2002 and 2007	GROWING
Estimated average annual number of job openings	20
Estimated rate of unemployment in 2001	ABOVE AVERAGE
Estimated average annual earnings in 1995	$28,000

Typical Occupations

Maintenance Plumber
Plumber Apprentice
Plumber

Nature of the Work

Plumbers install, maintain, and repair plumbing systems. They read blueprints and specifications; measure, cut, and thread pipes; operate hand and power tools; join pipes using clamps, cement, or welding equipment; cut openings in walls, floors, and ceilings; install support for piping systems; connect piping systems to water mains and pumps; clean pipes; and test for leaks.

Requirements

- Plumber is a designated apprenticeship trade, and certification to become a plumber is compulsory in Nova Scotia.
- Red Seal trade certification (allowing for interprovincial mobility) is available to qualified plumbers.

Training Paths

- There are two entry paths for the Plumber trade. You may seek employment and receive on-the-job training. You would then register as an apprentice with the Apprenticeship Training Division of the Department of Education. In the Apprenticeship Training Program, the employer releases you from regular duties to take periods of technical training, normally in a classroom situation. Plumber apprenticeship training is also available via the Internet. A certification exam will be given at the appropriate time. Completion of high school or equivalent is required to register as an apprentice. The term of apprenticeship is four years.
- As an alternative, you could attend a pre-employment program at the Nova Scotia Community College (NSCC). Graduates of the pre-employment program may secure employment in the occupation and register with the Apprenticeship Training Division. Credit may be granted for studies already completed in the pre-employment program.
- A one-year certificate program in Plumbing is offered at the Kingstec, Akerley, and Marconi campuses of the NSCC. Admission requires completion of high school or equivalent.

Skills and Aptitudes

This work requires a methodical approach, mechanical aptitude, and an ability to plan ahead. You must be agile, coordinated, and capable of working in cramped and awkward conditions. Patience and the ability to follow instructions are important. You should also be able to cooperate and work well with others on large projects.

Likely Employers

The majority of the people working in this field are employed in the construction industry.

Other Considerations

Most people in these occupations work full-time and often for the full year. About one in five plumbers is self-employed. The wage rate for apprentices is usually a percentage of the journeyperson rate, increasing upon completion of each stage of the apprenticeship program.

Related Occupations

Contractors and Supervisors, Trades and Related
Gas Fitters
Steamfitters, Pipefitters, and Sprinkler System Installers

For Further Information

Nova Scotia Department of Education
Apprenticeship Training Division
PO Box 578
Halifax, NS B3J 2S9
Phone: 1-800-494-5651
apprenticeship.ednet.ns.ca

Labour Market Conditions

Estimated employment in 2002	150
Estimated change in employment between 2002 and 2007	DECLINING
Estimated average annual number of job openings	5
Estimated rate of unemployment in 2001	SIGNIFICANTLY BELOW AVERAGE
Estimated average annual earnings in 1995	$43,000

Power Station and Power Systems Operators

Typical Occupations

Distribution Control Operator
Generating Station Operator
Nuclear Reactor Operator
Power Dispatcher
Power Plant Operator

Nature of the Work

Power systems operators monitor and operate switchboards and related equipment in electrical control centres to control the distribution of electrical power in transmission networks. Power station operators operate reactors, turbines, boilers, generators, and other related equipment in electrical generating stations and substations.

These people are required to coordinate, schedule, and direct generating station and substation power loads and line voltages; monitor and visually inspect station instruments, meters, and alarms; issue work and test permits to maintenance personnel; and compute and maintain records.

Requirements

- Workers in this trade usually have completed a minimum of Grade 11 with high standings in Mathematics and Physics.
- Power systems operators require three years of work experience in the trade and some college or industry courses in electrical and electronic technology.
- Power station operators may be required to complete an apprenticeship program in stationary or power engineering and obtain an engineering or stationary engineering certificate according to class. However, several years of work experience in the trade and some courses in stationary or power engineering may be sufficient to work in this area.
- The Public Safety Division of the Nova Scotia Department of Environment and Labour tests and certifies power engineers. Stationary engineers receive training through the Apprenticeship Training Division of the Nova Scotia Department of Education.

Training Paths

- Nova Scotia Community College (NSCC) offers a two-year diploma in Electrical Engineering Technology at the Institute of Technology campus. Applicants require high school graduation with English 12, Mathematics 12, Physics 12, and Chemistry 11. Graduates are eligible for membership in the Society of Certified Engineering Technicians and Technologists of Nova Scotia.
- You may also find the two-year Electrical/Electronic Technology–Power Option diploma program offered at the University College of Cape Breton (UCCB) appropriate training for this line of work. The program consists of two academic terms and three work terms, and is fully accredited at the technologist level. Admission requirements include Mathematics 12 and Physics 11, with Physics 12 recommended.
- You may receive basic training through a one-year certificate program in Power Engineering Fourth Class at the Akerley and Strait Area campuses of the NSCC. To enter this program, you must successfully complete high school or its equivalent. This program is also offered as a block release apprenticeship program at the Institute of Technology campus. Holders of a Fourth Class certificate may take a one-year diploma program in Power Engineering Third Class at the Akerley and Strait Area campuses of the NSCC.
- You may seek employment as a Stationary Engineer apprentice and go through the block release program (the employer releases you from your regular duties to take a block of training). Once you are employed in this trade, you should register with the Apprenticeship Training Division of the Department of Education in order to receive credit for your training and experience. The term of apprenticeship is generally four years. You require high school graduation or equivalent to register as an apprentice.

Skills and Aptitudes

This work requires accuracy, attention to detail, good mechanical aptitude, and mathematical ability. You must be alert, reliable, and capable of working with minimal supervision.

Verbal communication, decision-making, and problem-solving skills are needed, as well as the ability to follow instructions. You should be agile, coordinated, and in good physical condition.

Likely Employers

Almost all power station operators are employed by Nova Scotia Power Inc.

Other Considerations

Most people in these occupations are employed full-time and for the full year.

New job growth is likely to be limited, as construction of new power generation facilities is unlikely over the next few years.

Related Occupations

Stationary/Power Engineers
Supervisors in Processing, Assembly, and Fabrication
Technical Occupations in Electronics and Electrical Engineering

For Further Information

International Brotherhood of Electrical Workers
58 McQuade Lake Cres.
Halifax, NS B3S 1B6

Nova Scotia Department of Education
Apprenticeship Training Division
PO Box 578
Halifax, NS B3J 2S9
Phone: 1-800-494-5651
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Nova Scotia Department of Environment and Labour
Public Safety Division
PO Box 697
Halifax, NS B3J 2T8
www.gov.ns.ca/enla

Stationary/Power Engineers

Labour Market Conditions

Estimated employment in 2002	540
Estimated change in employment between 2002 and 2007	STABLE
Estimated average annual number of job openings	10
Estimated rate of unemployment in 2001	AVERAGE
Estimated average annual earnings in 1995	$40,000

Typical Occupations

Auxiliary Plant Operator
Boiler Operator
Power Engineer
Steam Plant Operator

Nature of the Work

Stationary engineers and power engineers operate and maintain various types of stationary engines and auxiliary equipment, such as boilers, turbines, generators, compressors, and other equipment, to provide heat, ventilation, refrigeration, light, and power for buildings, industrial plants, and other work sites. They monitor and inspect plant equipment and meters to measure temperature, pressure, and fuel flow, to detect leaks or malfunctions, and to make sure equipment is operating normally. They also analyze and record instrument readings and equipment malfunctions; clean and lubricate generators, turbines, pumps, and compressors; and perform other routine equipment maintenance duties.

Requirements

- Completion of high school or equivalent is required. Also, the completion of industry-related courses and on-the-job training, or an apprenticeship program, are required to become certified as a stationary engineer.
- Stationary Engineer is a designated apprenticeship trade in Nova Scotia.
- The Public Safety Division of the Nova Scotia Department of Environment and Labour tests and certifies power engineers.
- There is no Red Seal certification for stationary engineers. The interprovincial standard for stationary/power engineers in Canada is that set out by the Standardization of Power Engineers Examination Committee (SOPEEC). This committee is affiliated with the Association of Chief Inspectors (ACI). Examinations are prepared by the Coordinator of Examinations, who is appointed by ACI. Candidates who meet the provincial requirements and who pass the prescribed examinations are issued provincial certification with a SOPEEC seal or have the word "standardized" printed on their certificate. This certificate of qualification is accepted across Canada. Please contact the Nova Scotia Department of Environment and Labour for more information.

Training Paths

- You may seek employment and receive on-the-job training as a Stationary Engineer. You would then register as an apprentice with the Apprenticeship Training Division of the Department of Education. In the Apprenticeship Training Program, the employer releases you from regular duties to take periods of technical training, normally in a classroom situation. However, training is also available via the Internet. A certification exam will be given at the appropriate time. Completion of high school or equivalent is required to register as an apprentice. The term of apprenticeship will vary depending on the size of the plant in which the stationary/power engineer is employed.
- As an alternative, you could attend a pre-employment program in this trade at the Nova Scotia Community College (NSCC) then, after graduation, secure employment as a stationary engineer and register with the Apprenticeship Training Division. Credit may be granted for studies already completed in the pre-employment program.
- A one-year certificate program in Power Engineering Fourth Class is offered at the Akerley and Strait Area campuses of the NSCC. To enter this program, you must successfully complete high school or its equivalent. Holders of a Fourth Class certificate are eligible for admission to the one-year diploma program in Power Engineering Third Class, offered at the Akerley and Strait Area campuses of the NSCC.

Skills and Aptitudes

This work requires good mechanical aptitude and mathematical ability. You must be alert, reliable, and capable of working with minimal supervision. Verbal communication, decision-making, and problem-solving skills are needed, as well as the ability to follow instructions. You should be agile, coordinated, and in good physical condition.

Likely Employers

Stationary/power engineers are employed by a variety of different organizations. These include hospitals, departments of the federal government, pulp and paper companies, food processing companies, and Nova Scotia Power.

Other Considerations

Most people in these occupations are employed full-time and for the full year. The wage rate for apprentices is usually a percentage of the journeyperson rate, increasing upon completion of each stage of the apprenticeship program. People in these occupations are usually required to do shiftwork.

Related Occupations

Power Station and Power Systems Operators
Supervisors in Processing, Assembly, and Fabrication
Technical Occupations in Civil, Mechanical, and Industrial Engineering

For Further Information

Nova Scotia Department of Education
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Nova Scotia Department
of Environment and Labour
Public Safety Division
PO Box 697
Halifax, NS B3J 2T8
www.gov.ns.ca/enla

Steamfitters, Pipefitters, and Sprinkler System Installers

Labour Market Conditions

Estimated employment in 2002	330
Estimated change in employment between 2002 and 2007	GROWING
Estimated average annual number of job openings	10
Estimated rate of unemployment in 2001	SIGNIFICANTLY ABOVE AVERAGE
Estimated average annual earnings in 1995	$43,000

Typical Occupations

Marine Pipefitter
Sprinkler System Fitter
Sprinkler System Installer
Steamfitter

Nature of the Work

These individuals install, maintain, and repair pipelines and systems. They read blueprints and specifications; measure, cut, and thread pipes; operate hand and power tools; join pipes using clamps, cement, or welding equipment; cut openings in walls, floors, and ceilings; install support for piping systems; connect piping systems to water mains and pumps; clean pipes; and test for leaks. Sprinkler fitters work mainly on pressure pipeline systems used for extinguishing and preventing fires. Steamfitters and pipefitters work mainly on high- and low-pressure piping systems used to conduct liquids and gases for heating, cooling, and lubricating.

Requirements

- Sprinkler System Installer and Steamfitter/Pipefitter are designated apprenticeship trades in Nova Scotia. Although you are not required by legislation to be certified in these designated occupations in the Province of Nova Scotia, many Nova Scotia employers require you be a registered apprentice or hold a Certificate of Qualification.
- Red Seal trade certification (allowing for interprovincial mobility) is available to qualified steamfitter/pipefitters and sprinkler system installers.

Training Paths

- For training as a Sprinkler System Installer, you may seek employment and receive on-the-job training, then register as an apprentice with the Apprenticeship Training Division of the Department of Education to receive credit for your training and experience. The term of apprenticeship is four years. In the Apprenticeship Training Program, the employer releases you from regular duties to take periods of technical training, normally in a classroom situation. A certification exam will be give at an appropriate time. Completion of high school or equivalent is required.
- There are two entry paths for the Steamfitter/Pipefitter trade. You may seek employment and receive on-the-job training. You would then register as an apprentice with the Apprenticeship Training Division of the Department of Education. In the Apprenticeship Training Program, the employer releases you from regular duties to take periods of technical training, normally in a classroom situation. A certification exam will be given at the appropriate time. Completion of high school or equivalent is required to register as an apprentice. The term of apprenticeship is four years.
- As an alternative, you could attend a pre-employment program at the Nova Scotia Community College (NSCC). Graduates of the pre-employment program may secure employment in the occupation and register with the Apprenticeship Training Division. Credit may be granted for studies already completed in the pre-employment program.
- A one-year certificate program in Steamfitting/Pipefitting is offered at the Akerley and Strait Area campuses of NSCC. Admission requires high school diploma or equivalent. This program is also suitable for those interested in sprinkler system installation.

Skills and Aptitudes

This work requires a methodical approach, a mechanical aptitude, and an ability to plan ahead. You must be agile, coordinated, and capable of working in cramped and awkward conditions. Patience and the ability to follow instructions are important. You should also be able to cooperate and work well with others on large projects.

Likely Employers

Typical employers of people in these occupations include transportation equipment manufacturers, pulp and paper companies, businesses in the construction sector, and the federal government.

Other Considerations

Almost all the people in these occupations work full-time, although those in the construction sector can expect periods of unemployment due to changes in general economic activity. The wage rate for apprentices is usually a percentage of the journeyperson rate, increasing upon completion of each stage of the apprenticeship program.

Related Occupations

Contractors and Supervisors, Trades and Related
Gas Fitters
Plumbers

For Further Information

Nova Scotia Department of Education
Apprenticeship Training Division
PO Box 578
Halifax, NS B3J 2S9
Phone: 1-800-494-5651
apprenticeship.ednet.ns.ca

Supervisors, Railway and Motor Transportation

Labour Market Conditions

Estimated employment in 2002	810
Estimated change in employment between 2002 and 2007	GROWING
Estimated average annual number of job openings	30
Estimated rate of unemployment in 2001	SIGNIFICANTLY BELOW AVERAGE
Estimated average annual earnings in 1995	$32,000

Typical Occupations

Bus Dispatcher
School Bus Driver Supervisor
Trainmaster
Truck Dispatcher
Urban Transit System Supervisor

Nature of the Work

Supervisors in railway transportation supervise and coordinate the activities of railway and yard locomotive engineers, yard workers, and labourers. In motor transport, supervisors supervise and coordinate activities of truck drivers, bus drivers, delivery drivers, subway and other transit operators, chauffeurs, and taxi and limousine drivers. In each setting, supervisors must establish methods to meet work schedules and coordinate work activities with other units. Supervisors are required to resolve work problems and recommend measures to improve performance. They are responsible for purchasing materials and supplies. Supervisors ensure that safety policies and company procedures are carried out. They are required to prepare reports on their projects.

Requirements

- Supervisors in these occupations are generally required to have completed high school.
- Several years of experience in railway operations, a Level "A" Certificate of the Canadian Rail Operating Rules, and the Qualification Standards for Operating Crews Certificate are needed to work as a supervisor in railway transport operations.
- Several years of experience in an appropriate transportation sector may be required to gain employment as a transportation route and crew scheduler.

Training Paths

- Training for these occupations is generally provided on the job by the employer.
- The New Brunswick Community College in Woodstock offers a diploma program in Transportation Operations. High school completion or equivalent is required for admission. You should contact the college for further information.

Skills and Aptitudes

To work as a supervisor, you should have experience in the area. Supervisory and communication skills are essential. You must be responsible, organized, and able to work alone or as part of a team. You should also be prepared to keep up with new techniques, equipment, and materials. Alertness and physical stamina are important.

Likely Employers

Many of these supervisors are employed in the transportation industry, either with trucking companies or with rail service providers.

Other Considerations

The majority of workers in these occupations work full-time and for the full year.

Related Occupations

Railway and Marine Traffic Controllers
Recording, Scheduling,
and Distributing Occupations

For Further Information

Institute of Railway Technology
#214 905 1st Ave. South
Lethbridge, AB T1J 4M7
email: irt-itf@railcan.ca
www.irtcanada.net

Trucking Human Resource Sector Council
PO Box 243
Kentville, NS B4N 3W4
email: disnor.hrsc@ns.sympatico.ca
www.truckinghrsc.ns.ca

Labour Market Conditions

- **Estimated employment in 2002 ....700**
- **Estimated change in employment between 2002 and 2007 ....GROWING**
- **Estimated average annual number of job openings 20**
- **Estimated rate of unemployment in 2001 ....BELOW AVERAGE**
- **Estimated average annual earnings in 1995 ....$14,000**

Tailors and Dressmakers

Nature of the Work

Tailors and dressmakers manufacture custom-made and ready-to-wear garments and accessories. They design, fit, alter, restyle, and repair items; may be involved in detailed hand-sewing; and may produce garments according to customers' and manufacturers' specifications.

Requirements

There are no formal training or certification requirements to work in these occupations. However, post-secondary education in the area of apparel studies would improve your chances for employment in the manufacturing field.

Training Paths

- You may seek employment and receive on-the-job training from an experienced supervisor.
- Many institutions in Ontario, including George Brown College, Mohawk College, Ryerson Polytechnical Institute, and Seneca College, offer programs related to dressmaking, fashion, design, and textiles. You should contact these institutions for information on programs offered.

Skills and Aptitudes

These occupations require good eyesight, patience, and the ability to perform detailed and intricate work. You must be able to follow directions closely and accept instructions from both clients and supervisors. Artistic imagination and craft skills are important for turning an idea into a garment. However, it is just as important to be capable of adapting your ideas to the tastes of others. You must have good hand-eye coordination. Accuracy and a sense of proportion are also necessary.

Likely Employers

Most tailors and dressmakers are employed in retail and service stores that sell clothes and provide alteration and dressmaking services. These individuals are also often employed by clothing manufacturers.

Other Considerations

Most of the people in these occupations work full-time. Workers in these occupations are often self-employed and work under contract with a number of clothing stores. Their earnings and ability to stay in business depend upon the quality of their work and their ability to attract and keep clients. These workers may be self-employed.

Related Occupations

Creative Designers and Technicians
Machine Operators

For Further Information

Apparel Human Resource Council
9310, St-Laurent Blvd., Suite 1114
Montreal, QC H2N 1N4
email: jrivard@apparel-hrc.org
www.apparel-hrc.org

Canadian Apparel Federation
504–124 O'Connor St.
Ottawa, ON K1P 5M9
www.apparel.ca

Telecommunications Equipment Installers and Repairers

Labour Market Conditions

- **Estimated employment in 2002**.........790
- **Estimated change in employment between 2002 and 2007**............DECLINING
- **Estimated average annual number of job openings**..............................5
- **Estimated rate of unemployment in 2001**...........SIGNIFICANTLY BELOW AVERAGE
- **Estimated average annual earnings in 1995**................................$42,000

Typical Occupations

Cable Television Installer
Cablevision Servicer
Cellula[illegible]elephone Technician
Telecommunications Equipment Technician
Telephone Line Installer

Nature of the Work

Telecommunications installation and repair workers and cable television service technicians install, arrange, remove, and maintain telephone equipment and cable outlets. They must test installed equipment and repair or replace defective and damaged telephone wire, cable television signals, and associated equipment. This work requires operating computerized testing systems to conduct service tests on customer lines and equipment; identifying service problems; arranging for repair; working with fibre optics media; and completing reports of service calls. This work requires climbing and working on poles, ladders, or other support structures.

Requirements

- Telecommunications installers or repairers are normally required to complete high school and obtain industry courses and work experience in the trade.
- Telecommunications equipment technicians are usually required to complete a college electrical and electronics program and several months of on-the-job training.
- Cable television service and maintenance technicians are required to complete a combination of college or industry courses related to electronics and electrical systems and some on-the-job experience.

Training Paths

- Electrical and electronics programs and courses are offered at several universities, Nova Scotia Community College (NSCC) campuses, and the University College of Cape Breton (UCCB). To enter any of these programs, you must have a high school diploma or an equivalent.
- UCCB offers a two-year cooperative education program leading to a diploma in Electrical/Electronic Engineering Technology –Telecommunications Option. Admission requires high school completion with Mathematics 12, and Physics 12 is recommended.

Skills and Aptitudes

This work requires a good mechanical and electrical aptitude. You should have a strong background in mathematics and the sciences. Accuracy and a keen eye for detail are important. Good eyesight, colour vision, and hand-eye coordination are necessary.

Likely Employers

Most of these installers and repairers are employed by large corporations in the telecommunications industry, such as telephone, cable, radio, and television companies.

Other Considerations

Most people in these occupations are employed full-time and for the full year. Advances in telecommunications and multi-media technology and the ways in which they are delivered to customers may affect the type of work performed and job prospects in these occupations.

Related Occupations

Contractors and Supervisors, Trades and Related
Electrical and Telecommunications Line and Cable Workers

Trades Helpers, Construction Labourers, and Related

Labour Market Conditions

Estimated employment in 2002	3260
Estimated change in employment between 2002 and 2007	STABLE
Estimated average annual number of job openings	60
Estimated rate of unemployment in 2001	SIGNIFICANTLY ABOVE AVERAGE
Estimated average annual earnings in 1995	$27,000

Typical Occupations

Construction Labourer
Garbage Collector
Public Works Labourer
Railway Labourer
Surveyor Helper

Nature of the Work

Construction trades helpers and labourers assist skilled tradespersons and perform labouring activities at construction sites. They assist in the labouring activities in the installation, maintenance, and repair of industrial machinery and refrigeration, heating, and air conditioning equipment, or in the maintenance and repair of transportation and heavy equipment. They may also assist in maintenance labour such as maintaining sidewalks and roads, assist with transport labour such as track maintenance, or assist truck drivers.

Requirements

Some experience as general construction labourers may be required for construction trade helpers. There are no formal education or training requirements to work in the other occupations, although many employers require that you have at least some high school education.

Training Paths

Training for these occupations is generally provided on the job by the employer, under the supervision of an experienced worker.

Skills and Aptitudes

To work in these occupations, you should have good health, physical stamina, and strength. Agility, coordination, and a mechanical aptitude would be helpful. You must be able to take direction and carry out instructions given by a supervisor.

Likely Employers

Positions in this field can be found in a number of different sectors. As the title implies, most trades helpers and construction labourers are employed in the construction industry, but others work for public transportation providers or municipal governments.

Other Considerations

Most people in these occupations work full-time, but often for only part of the year.

Related Occupations

Heavy Equipment Operators
Labourers in Primary Industry

Train Crew Operating Occupations

Labour Market Conditions

- Estimated employment in 2002 300
- Estimated change in employment between 2002 and 2007 .... STABLE
- Estimated average annual number of job openings 5
- Estimated rate of unemployment in 2001 .... SIGNIFICANTLY BELOW AVERAGE
- Estimated average annual earnings in 1995 .... $46,000

Typical Occupations

Brakeman/woman
Freight Train Conductor
Railway Conductor
Railway Engineer
Switch Engineer
Train Conductor

Nature of the Work

Railway locomotive engineers operate railway locomotives to transport passengers and freight. They also operate communication systems, inspect assigned locomotives, and test operating controls and equipment. Yard locomotive engineers operate locomotives within the yards of railway, industrial, or other establishments. They also perform switching operations and routine maintenance according to instructions. Railway conductors co-ordinate and supervise the activities of passenger and freight train crew members. They receive train orders, communicate with train crew, collect fares, and prepare train run reports. Brakemen/women check train brakes and other systems and equipment prior to train run, and assist railway conductors in activities en route. They also communicate with train crew members, receive orders from traffic controllers, open and close track switches, set and release hand brakes, and assist with passenger travel.

Requirements

- Completion of high school is generally required to work in these occupations. Experience as a railway worker and a Level "B" certificate of the Canadian Rail Operating Rules are required for becoming a brakeman/woman.
- Experience as a brakeman/woman and a Level "A" certificate of the Canadian Rail Operating Rules are needed to become a conductor.
- Experience as a conductor and a Level "A" certificate of the Canadian Rail Operating Rules are required for employment as a railway locomotive engineer.

Training Paths

Training for these occupations is generally provided on the job under the supervision of experienced workers. You should contact your local railway detachment for further information on training for these occupations.

Skills and Aptitudes

To work in these occupations, you should be responsible, reliable, and in good physical health. You must also be able to work on your own and carry out instructions given by your employer. Physical strength, stamina, and attention to detail are also assets.

Likely Employers

Most people in this field are employed by companies in the rail transportation industry or coal mining corporations.

Other Considerations

Most people in this occupation work full-time.

Related Occupations

Supervisors, Railway and Motor Transportation

For Further Information

Institute of Railway Technology
#214 905 1st Ave. South
Lethbridge, AB T1J 4M7
email: irt-itf@railcan.ca
www.irtcanada.net

Upholsterers

Labour Market Conditions

- Estimated employment in 2002..........150
- Estimated change in employment between 2002 and 2007..............GROWING
- Estimated average annual number of job openings..............................10
- Estimated rate of unemployment in 2001 ...........SIGNIFICANTLY BELOW AVERAGE
- Estimated average annual earnings in 1995.................................$21,000

Typical Occupations

Aircraft Upholsterer
Automobile Upholsterer
Custom Upholsterer
Furniture Upholsterer
Upholstery Repairer

Nature of the Work

Upholsterers cover furniture, fixtures, and similar items with fabric, leather, or other upholstery materials. They discuss upholstering with customers and provide cost estimates. They must lay out, measure, and cut materials; operate sewing machines or sew by hand; install padding and underlays; and fasten covering materials to furniture frames. Upholsterers may repair furniture and refinish wood surfaces.

Requirements

There are no formal training or certification requirements for upholsterers. Generally, employers require completion of some high school and completion of specialized courses or programs in upholstering and repair, or several years of on-the-job training.

Training Paths

There are currently no educational training paths available through the public education system in Nova Scotia. You may seek further information from private training institutions within the province. Most training for upholsterers is provided on the job by the employer.

Skills and Aptitudes

For this type of work, you must be able to work well with your hands and be able to visualize a finished piece of work from a sketch or brief description. Physical strength and the ability to visualize colour may also be important. You should be cautious and comfortable working with equipment. Effective communication skills and the ability to cooperate with others are necessary. Accuracy and attention to detail are needed as well.

Likely Employers

Most upholsterers are employed in the retail trade industry by companies providing upholstering services to individual consumers.

Other Considerations

The majority of upholsterers work for part of the year, while most of the rest work full-time and for the full year. About half of upholsterers are self-employed.

Related Occupations

Carpenters and Cabinet Carpenters
Other Assembly and Related Occupations

Welders

Labour Market Conditions

- Estimated employment in 2002 2640
- Estimated change in employment between 2002 and 2007 ....GROWING
- Estimated average annual number of job openings..................................60
- Estimated rate of unemployment in 2001 ............SIGNIFICANTLY ABOVE AVERAGE
- Estimated average annual earnings in 1995..................................$32,000

Typical Occupations

Aircraft Welder
Precision Welder
Solder Machine Operators
Spot Welder
Structural Steel Welder

Nature of the Work

Welders fabricate and repair metal parts and structures. They cut and join metal; read and interpret blueprints; and operate welding equipment, flame-cutting equipment, brazing and soldering equipment, and metal shaping machines. These workers may specialize in certain types of welding such as custom fabrication, ship building, and machinery/equipment repair. Welders may be required to work in cramped, awkward places. Solder machine operators operate previously set up brazing or soldering machines to bond metal parts or to fill holes and seams of metal articles with solder.

Requirements

- Welder is a designated apprenticeship trade in Nova Scotia and completion of a welding course is highly recommended. Although you are not required by legislation to be certified as a Welder in the Province of Nova Scotia, many Nova Scotia employers require you to be a registered apprentice or hold a Certificate of Qualification.
- Depending on the work area, certification or testing might be required by various standards-administration organizations.
- Red Seal trade certification (allowing for interprovincial mobility) is available to qualified welders.
- Completion of some high school, several months of on-the-job training, and experience as a machine operator may be necessary to work as a soldering machine operator.

Training Paths

- There are two entry paths for the Welder trade. You may seek employment and receive on-the-job training. You would then register as an apprentice with the Apprenticeship Training Division of the Department of Education. In the Apprenticeship Training Program, the employer releases you from regular duties to take periods of technical training, normally in a classroom situation.
  A certification exam will be given at the appropriate time. Completion of high school or equivalent is required to become a registered apprentice. This trade has a three-year apprenticeship term.
- As an alternative, you could attend a pre-employment program in this trade at the Nova Scotia Community College (NSCC). Graduates of the pre-employment program may secure employment in the occupation and register with the Apprenticeship Training Division. Credit may be granted for studies already completed in the pre-employment program.
- A two-year diploma program in Welding is offered at the Akerley, Burridge, Halifax, Lunenburg, Pictou, and Strait Area campuses of the NSCC. Admission requires high school completion or equivalent.
- Highland Resources Limited in Sydney offers programs in welding. You may contact the school for further information.

Skills and Aptitudes

For this occupation you should enjoy working with your hands. Good hand-eye coordination, physical strength, and stamina are necessary. You must also be cautious, alert, and able to concentrate over long periods of time. The ability to perform mathematical functions is helpful. In most cases, you must also be able to cooperate and coordinate your work with others.

Likely Employers

Welders and solder machine operators work in a number of different sectors. Most work in businesses that manufacture transportation equipment or fabricated metal products. Others are employed by companies that provide welding services to companies and individuals.

Other Considerations

Most people in these occupations are employed full-time. The wage rate for apprentices is usually a percentage of the journeyperson rate, increasing upon completion of each stage of the apprenticeship program. Shiftwork is common in these trades.

Related Occupations

Commercial Divers
Contractors and Supervisors, Trades and Related
Machine Operators

For Further Information

Canadian Welding Bureau
Atlantic Region
73 Tacoma Dr., 6th Floor
Dartmouth, NS B2W 3Y6
www.cwbgroup.com

Nova Scotia Department of Education
Apprenticeship Training Division
PO Box 578
Halifax, NS B3J 2S9
Phone: 1-800-494-5651
apprenticeship.ednet.ns.ca

Appendixes

Appendix A

This is an appendix outlining the occupations which are included in **Career Options** according to the major groupings. The four-digit numbers relate to the National Occupational Classification (NOC), which is published by Human Resources Development Canada. The numbers classify each occupation by skill level and skill type. NOC numbers are primarily used by provincial and federal employment service offices to classify occupations. They are included in **Career Options** for reference purposes.

Administrative Occupations **22**
1221 Administrative Officers
1222 Executive Assistants
1223 Personnel and Recruitment Officers
1224 Property Administrators
1225 Purchasing Agents and Officers
1226 Conference and Event Planners

Administrative Officers – Government **24**
1227 Court Officers and Justices of the Peace
1228 Immigration, Unemployment Insurance and Revenue Officers

Agricultural Representatives, Consultants, and Specialists **86**
2123 Agricultural Representatives, Consultants and Specialists

Agriculture and Horticulture Workers **162**
8431 General Farm Workers
8432 Nursery and Greenhouse Workers

Air Pilots, Flight Engineers, and Flying Instructors **87**
2271 Air Pilots, Flight Engineers and Flying Instructors

Air Traffic Control Occupations **88**
2272 Air Traffic Control Occupations

Aircraft Technicians and Inspectors **208**
7315 Aircraft Mechanics and Aircraft Inspectors

Announcers and Other Broadcasters **128**
5231 Announcers and Other Broadcasters

Aquaculture Operators and Managers **163**
8257 Aquaculture Operators and Managers

Architects and Landscape Architects **89**
2151 Architects
2152 Landscape Architects

Architectural Technicians and Technologists **90**
2251 Architectural Technologists and Technicians

Artisans, Craftspersons, and Related Occupations **129**
5244 Artisans and Craftspersons
5245 Patternmakers–Textile, Leather, and Fur Products

Assessors and Appraisers **25**
1235 Assessors, Valuators and Appraisers

Audiologists and Speech—Language Pathologists **44**
3141 Audiologists and Speech–Language Pathologists

Babysitters and Nannies **186**
6474 Babysitters, Nannies and Parents' Helpers

Bakers **187**
6252 Bakers

Biologists and Related Scientists **91**
2121 Biologists and Related Scientists

Boilermakers and Structural Metal and Platework Fabricators **209**
7262 Boilermakers
7263 Structural Metal and Platework Fabricators and Fitters

Bookkeepers **26**
1231 Bookkeepers

Bricklayers **210**
7281 Bricklayers

Butchers **188**
6251 Butchers and Meat Cutters, Retail and Wholesale

Camera Operators, Broadcast Technicians, and Related Technical Occupations **130**
5222 Film and Video Camera Operators
5224 Broadcast Technicians
5225 Audio and Video Recording Technicians
5226 Other Technical Occupations in Motion Pictures, Broadcasting and Performing Arts
5227 Support and Assisting Occupations in Motion Pictures, Broadcasting and Performing Arts

Canadian Forces Occupations **42**
0643 Commissioned Officers, Armed Forces
6464 Occupations Unique to the Armed Forces

Carpenters and Cabinet Carpenters **211**
7271 Carpenters
7272 Cabinetmakers

Central Control and Process Operators in Manufacturing and Processing **176**
9231 Central Control and Process Operators, Mineral and Metal Processing
9232 Petroleum, Gas and Chemical Process Operators
9233 Pulping Control Operators
9234 Papermaking and Coating Control Operators

Chefs and Cooks **189**
6241 Chefs
6242 Cooks

Chemical Engineers **93**
2134 Chemical Engineers

Chemists **94**
2112 Chemists

Childhood Educators **190**
6472 Elementary and Secondary School Teacher Assistants
6473 Early Childhood Educator Assistants
4214 Early Childhood Educators

Chiropractors **45**
3122 Chiropractors

Appendix A

Civil Engineers 95
2131 Civil Engineers

Clerical Supervisors 27
1211 Supervisors, General Office and Administrative Support Clerks
1212 Supervisors, Finance and Insurance Clerks
1213 Supervisors, Library, Correspondence and Related Information Clerks
1214 Supervisors, Mail and Message Distribution Occupations
1215 Supervisors, Recording, Distribution and Scheduling Occupations

Clerical Workers and Office Equipment Operators 28
1411 General Office Clerks
1412 Typists and Word Processing Operators
1413 Records and File Clerks
1414 Receptionists and Switchboard Operators
1421 Computer Operators
1422 Data Entry Clerks
1423 Typesetters and Related Occupations
1424 Telephone Operators
1431 Accounting and Related Clerks
1432 Payroll Clerks
1433 Tellers, Financial Services
1434 Banking, Insurance and Other Financial Clerks
1435 Collectors
1441 Administrative Clerks
1442 Personnel Clerks
1443 Court Clerks
1451 Library Clerks
1452 Correspondence, Publication and Related Clerks
1453 Customer Service, Information and Related Clerks
1454 Survey Interviewers and Statistical Clerks

College and Other Vocational Instructors 146
4131 College and Other Vocational Instructors

Commercial Divers 212
7382 Commercial Divers

Computer Engineers 96
2147 Computer Engineers

Computer Programmers and Systems Analysts 97
2162 Computer Systems Analysts
2163 Computer Programmers

Construction Millwrights and Industrial Mechanics 213
7311 Construction Millwrights and Industrial Mechanics (except Textile)

Contractors and Supervisors, Trades and Related 214
7211 Supervisors, Machinists and Related Occupations
7212 Contractors and Supervisors, Electrical Trades and Telecommunication Occupations
7213 Contractors and Supervisors, Pipefitting Trades
7214 Contractors and Supervisors, Metal Forming, Shaping and Erecting Occupations
7215 Contractors and Supervisors, Carpentry Trades
7216 Contractors and Supervisors, Mechanic Trades
7217 Contractors and Supervisors, Heavy Construction Equipment Crews
7218 Supervisors, Printing and Related Occupations
7219 Contractors and Supervisors, Other Construction Trades, Installers, Repairers and Servicers

Contractors, Operators, and Supervisors in Agriculture and Horticulture 164
8252 Agricultural and Related Service Contractors and Managers
8253 Farm Supervisors and Specialized Livestock Workers
8254 Nursery and Greenhouse Operators and Managers
8255 Landscaping and Grounds Maintenance Contractors and Managers
8256 Supervisors, Landscape and Horticulture

Crane Operators 215
7371 Crane Operators

Creative Artists 131
5131 Producers, Directors, Choreographers and Related Occupations
5132 Conductors, Composers and Arrangers
5136 Painters, Sculptors and Other Visual Artists

Creative Designers and Technicians 133
5223 Graphic Arts Technicians
5241 Graphic Designers and Illustrating Artists
5242 Interior Designers
5243 Theatre, Fashion, Exhibit and Other Creative Designers

Customs, Ship, and Other Brokers 29
1236 Customs, Ship and Other Brokers

Deck and Engineer Officers, Water Transport 99
2273 Deck Officers, Water Transport
2274 Engineer Officers, Water Transport

Dental Hygienists and Dental Assistants 46
3222 Dental Hygienists and Dental Therapists
3411 Dental Assistants

Dentists 47
3113 Dentists

Dietitians and Nutritionists 48
3132 Dietitians and Nutritionists

Drafting Technicians and Technologists 100
2253 Drafting Technologists and Technicians

Drillers and Blasters 216
7372 Drillers and Blasters — Surface Mining, Quarrying and Construction
7373 Water Well Drillers

Electrical and Electronics Assemblers 177
9483 Electronics Assemblers, Fabricators, Inspectors and Testers
9484 Assemblers and Inspectors, Electrical Appliance, Apparatus and Equipment Manufacturing
9485 Assemblers, Fabricators and Inspectors, Industrial Electrical Motors and Transformer
9487 Machine Operators and Inspectors, Electrical Apparatus Manufacturing

Electrical and Electronics Engineers 101
2133 Electrical and Electronics Engineers

Appendix A

Electrical and Telecommunications Line and Cable Workers 217
7244 Electrical Power Line and Cable Workers
7245 Telecommunications Line and Cable Workers

Electricians 218
7241 Electricians (except Industrial and Power System)

Elemental Sales and Service Occupations 191
6611 Cashiers
6621 Service Station Attendants
6622 Grocery Clerks and Shelf Stockers
6623 Other Elemental Sales Occupations
6631 Elemental Medical and Hospital Assistants
6641 Food Service Counter Attendants and Food Preparers
6642 Kitchen and Food Service Helpers
6651 Security Guards and Related Occupations
6661 Light Duty Cleaners
6662 Specialized Cleaners
6663 Janitors, Caretakers and Building Superintendents
6670 Attendants in Amusement, Recreation and Sport
6672 Other Attendants in Accommodation and Travel (except Airline)
6681 Dry Cleaning and Laundry Occupations
6682 Ironing, Pressing and Finishing Occupations
6683 Other Elemental Service Occupations

Emergency Medical Technicians 49
3234 Ambulance Attendants and Other Paramedical Occupations

Family Physicians and Specialists 50
3111 Specialist Physicians
3112 General Practitioners and Family Physicians

Farmers and Farm Managers 165
8251 Farmers and Farm Managers

Financial Auditors and Accountants 30
1111 Financial Auditors and Accountants

Firefighters 192
6262 Firefighters

Fishing Vessel Masters, Skippers, and Fishers 166
8261 Fishing Masters and Officers
8262 Fishing Vessel Skippers and Fishermen/Women

Foresters 102
2122 Forestry Professionals

Funeral Directors and Embalmers 193
6272 Funeral Directors and Embalmers

Gas Fitters 219
7253 Gas Fitters

Geologists and Oceanographers 103
2113 Geologists, Geochemists and Geophysicists

Hairstylists, Estheticians, and Related Occupations 194
6271 Hairstylists and Barbers
6481 Image, Social and Other Personal Consultants
6482 Estheticians, Electrologists and Related Occupations

Heavy Duty Equipment Mechanics 220
7312 Heavy Duty Equipment Mechanics

Heavy Equipment Operators 221
7421 Heavy Equipment Operators (except Crane)
7422 Public Works Maintenance Equipment Operators

Human Services Workers 147
4212 Community and Social Service Workers
4213 Employment Counsellors

Industrial and Manufacturing Engineers 104
2141 Industrial and Manufacturing Engineers

Industrial and Power System Electricians 222
7242 Industrial Electricians
7243 Power System Electricians

Industrial Designers 105
2252 Industrial Designers

Insurance Adjusters and Underwriters 32
1233 Insurance Adjusters and Claims Examiners
1234 Insurance Underwriters

Insurance and Real Estate Sales Occupations and Buyers 195
6231 Insurance Agents and Brokers
6232 Real Estate Agents and Salespersons
6233 Retail and Wholesale Buyers

Investment Professionals 33
1112 Financial and Investment Analysts
1113 Securities Agents, Investment Dealers and Traders
1114 Other Financial Officers

Ironworkers, Blacksmiths, and Die Setters 223
7264 Ironworkers
7266 Blacksmiths and Die Setters

Judges and Lawyers 149
4111 Judges
4112 Lawyers and Quebec Notaries

Labourers in Primary Industry 167
8611 Harvesting Labourers
8612 Landscaping and Grounds Maintenance Labourers
8613 Aquaculture and Marine Harvest Labourers
8614 Mine Labourers
8615 Oil and Gas Drilling, Servicing and Related Labourers
8616 Logging and Forestry Labourers

Labourers in Processing, Manufacturing, and Utilities 178
9611 Labourers in Mineral and Metal Processing
9612 Labourers in Metal Fabrication
9613 Labourers in Chemical Products Processing and Utilities
9614 Labourers in Wood, Pulp and Paper Processing
9615 Labourers in Rubber and Plastic Products Manufacturing
9616 Labourers in Textile Processing
9617 Labourers in Food, Beverage and Tobacco Processing
9618 Labourers in Fish Processing
9619 Other Labourers in Processing, Manufacturing and Utilities

Librarians, Archivists, and Conservators 135
5111 Librarians
5112 Conservators and Curators
5113 Archivists

Licensed Practical Nurses 51
3233 Registered Nursing Assistants

Life Sciences Technicians and Technologists 106
2221 Biological Technologists and Technicians
2222 Agricultural and Fish Products Inspectors
2223 Forestry Technologists and Technicians
2224 Conservation and Fishery Officers
2225 Landscape and Horticultural Technicians and Specialists

Loan Officers 35
1232 Loan Officers

Logging and Forestry Workers 168
8421 Chainsaw and Skidder Operators
8422 Silviculture and Forestry Workers

Logging Machinery Operators 169
8241 Logging Machinery Operators

Longshore Workers and Materials Handlers 224
7451 Longshore Workers
7452 Materials Handlers

Machine Operators 179
9410 Machine Operators, Mineral and Metal Processing
9412 Foundry Workers
9413 Glass Forming and Finishing Machine Operators and Glass Cutters
9414 Concrete, Clay and Stone Forming Operators
9415 Inspectors and Testers, Mineral and Metal Processing
9421 Chemical Plant Machine Operators
9422 Plastics Processing Machine Operators
9423 Rubber Processing Machine Operators and Related Workers
9424 Water and Waste Plant Operators
9431 Sawmill Machine Operators
9432 Pulp Mill Machine Operators
9433 Papermaking and Finishing Machine Operators
9434 Other Wood Processing Machine Operators
9435 Paper Converting Machine Operators
9436 Lumber Graders and Other Wood Processing Inspectors and Graders
9441 Textile Fibre and Yarn Preparation Machine Operators
9442 Weavers, Knitters and Other Fabric-Making Occupations
9443 Textile Dyeing and Finishing Machine Operators
9444 Textile Inspectors, Graders and Samplers
9451 Sewing Machine Operators
9452 Fabric, Fur and Leather Cutters
9453 Hide and Pelt Processing Workers
9454 Inspectors and Testers, Fabric, Fur and Leather Products Manufacturing
9461 Process Control and Machine Operators, Food and Beverage Processing
9462 Industrial Butchers and Meat Cutters, Poultry Preparation and Related Workers
9463 Fish Plant Workers
9464 Tobacco Processing Machine Operators
9465 Testers and Graders, Food and Beverage Processing

Machining, Metalworking, Woodworking, and Related Machine Operators 180
9511 Machining Tool Operators
9512 Forging Machine Operators
9513 Woodworking Machine Operators
9514 Metalworking Machine Operators
9516 Other Metal Products Machine Operators
9517 Other Products Machine Operators

Machinists, Tool and Die Makers, and Tooling Inspectors 225
7231 Machinists and Machining and Tooling Inspectors
7232 Tool and Die Makers

Mail and Message Distributing Occupations 36
1461 Mail, Postal and Related Clerks
1462 Letter Carriers
1463 Couriers and Messengers

Managers in Administrative Services 70
0111 Financial Managers
0112 Human Resources Managers
0113 Purchasing Managers
0114 Other Administrative Services Managers

Managers in Art, Culture, Recreation, and Sport 72
0511 Library, Archive, Museum and Art Gallery Managers
0512 Managers in Publishing, Motion Pictures, Broadcasting and Performing Arts
0513 Recreation and Sport Program and Service Directors

Managers in Emergency and Protective Services 74
0641 Commissioned Police Officers
0642 Fire Chiefs and Senior Firefighting Officers

Managers in Facility Operation and Maintenance 75
0721 Facility Operation Managers
0722 Maintenance Managers

Managers in Financial, Communications, and Other Business Services 76
0013 Senior Managers–Finance, Communication Carriers and Other Business Services
0121 Insurance, Real Estate and Finance Brokerage Managers
0122 Banking, Credit and Other Investment Managers
0123 Other Business Services Managers
0131 Telecommunication Carriers Managers
0132 Postal and Courier Services Managers
0210 Engineering, Science and Architecture Managers
0213 Information Systems and Data Processing Managers

Managers in Goods-Producing Industries 78
0016 Senior Managers–Goods Production, Utilities, Transportation and Construction
0711 Construction Managers
0712 Residential Home Builders and Renovators
0811 Primary Production Managers (except Agriculture)
0911 Manufacturing Managers
0912 Utilities Managers

Managers in Health, Education, Social, and Community Services 80

0014 Senior Managers–Health, Education, Social and Community Services and Membership Organizations
0311 Managers in Health Care
0312 Administrators in Post-Secondary Education and Vocational Training
0313 School Principals and Administrators of Elementary and Secondary Education
0314 Managers in Social, Community and Correctional Services

Managers in Public Administration 81

0012 Senior Government Managers and Officials
0411 Government Managers in Health and Social Policy Development and Program Administration
0412 Government Managers in Economic Analysis, Policy Development and Program Administration
0413 Government Managers in Education Policy Development and Program Administration
0414 Other Managers in Public Administration

Managers in Retail Trade, Tourism, and Other Service Industries 82

0015 Senior Managers–Trade, Broadcasting and Other Services, n.e.c.
0621 Retail Trade Managers
0631 Restaurant and Food Service Managers
0632 Accommodation Service Managers
0651 Other Services Managers
0713 Transportation Managers

Managers in Sales, Marketing and Advertising 83

0611 Sales, Marketing and Advertising Managers

Mapping and Related Technicians and Technologists 108

2255 Mapping and Related Technologists and Technicians

Mathematicians, Statisticians and Actuaries 109

2161 Mathematicians, Statisticians and Actuaries

Mechanical Assemblers 181

9481 Aircraft Assemblers and Aircraft Assembly Inspectors
9482 Motor Vehicle Assemblers, Inspectors and Testers
9486 Mechanical Assemblers and Inspectors

Mechanical Engineers 110

2132 Mechanical Engineers

Medical Laboratory Technicians and Technologists 52

3211 Medical Laboratory Technologists and Pathologists' Assistants
3212 Medical Laboratory Technicians

Medical Radiation Technologists 53

3215 Medical Radiation Technologists

Meteorologists and Other Professional Occupations in Physical Sciences 111

2114 Meteorologists
2115 Other Professional Occupations in Physical Sciences

Motor Vehicle and Transit Drivers 226

7411 Truck Drivers
7412 Bus Drivers and Subway and Other Transit Operators
7413 Taxi and Limousine Drivers and Chauffeurs
7414 Delivery Drivers

Motor Vehicle Body Repairers 227

7322 Motor Vehicle Body Repairers

Motor Vehicle Mechanics 228

7321 Motor Vehicle Mechanics, Technicians and Mechanical Repairers

Occupational Therapists 54

3143 Occupational Therapists

Occupations in Food and Beverage Service 196

6451 Maîtres d'hôtel and Hosts/Hostesses
6452 Bartenders
6453 Food and Beverage Servers

Occupations in Public Relations and Communications 137

5124 Professional Occupations in Public Relations and Communications

Occupations in Recreation and Sports 138

5251 Athletes
5252 Coaches
5253 Sports Officials and Referees
5254 Program Leaders and Instructors in Recreation and Sport

Occupations in Religion 150

4154 Ministers of Religion
4217 Other Religious Occupations

Occupations in Therapy and Assessment 55

3144 Other Professional Occupations in Therapy and Assessment
3235 Other Technical Occupations in Therapy and Assessment

Occupations in Tourism, Travel, and Accommodations 197

6431 Travel Counsellors
6432 Pursers and Flight Attendants
6433 Airline Sales and Service Agents
6434 Ticket and Cargo Agents and Related Clerks (except Airline)
6435 Hotel Front Desk Clerks
6441 Tour and Travel Guides
6442 Outdoor Sport and Recreational Guides

Opticians 56

3231 Opticians

Optometrists 57

3121 Optometrists

Other Assembly and Related Occupations 182

9491 Boat Assemblers and Inspectors
9492 Furniture and Fixture Assemblers and Inspectors
9493 Other Wood Products Assemblers and Inspectors
9494 Furniture Finishers and Refinishers
9495 Plastic Products Assemblers, Finishers and Inspectors
9496 Painters and Coaters, Manufacturing
9497 Plating, Metal Spraying and Related Operators
9498 Other Assemblers and Inspectors

Appendix A

Other Construction Trades 229
7261 Sheet Metal Workers
7282 Cement Finishers
7283 Tilesetters
7291 Roofers and Shinglers
7292 Glaziers
7293 Insulators
7295 Floor Covering Installers

Other Fishing and Trapping Occupations 170
8441 Fishing Vessel Deckhands
8442 Trappers and Hunters

Other Installers and Repairers 230
7441 Residential and Commercial Installers and Servicers
7442 Waterworks and Gas Maintenance Workers
7443 Automotive Mechanical Installers and Servicers
7444 Pest Controllers and Fumigators
7445 Other Repairers and Servicers

Other Instructors and Teachers 151
4215 Instructors and Teachers of Disabled Persons
4216 Other Instructors

Other Machinery and Transportation Equipment Mechanics 231
7314 Railway Carmen/Women
7316 Machine Fitters
7317 Textile Machinery Mechanics and Repairers
7318 Elevator Constructors and Mechanics

Other Mechanics 232
7313 Refrigeration and Air Conditioning Mechanics
7331 Oil and Solid Fuel Heating Mechanics
7332 Electric Appliance Servicers and Repairers
7333 Electrical Mechanics
7334 Motorcycle and Other Related Mechanics
7335 Other Small Engine and Equipment Mechanics

Other Medical Technicians and Technologists 58
3213 Animal Health Technologists
3214 Respiratory Therapists and Clinical Perfusionists
3216 Medical Sonographers
3217 Cardiology Technologists
3218 Electroencephalographic and Other Diagnostic Technologists, n.e.c.
3219 Other Medical Technologists and Technicians (except Dental Health)

Other Occupations in Protective Service 199
6461 Sheriffs and Bailiffs
6462 Correctional Service Officers
6463 By-Law Enforcement and Other Regulatory Officers, n.e.c.
6465 Other Protective Service Occupations

Other Professional Engineers 112
2142 Metallurgical and Materials Engineers
2143 Mining Engineers
2144 Geological Engineers
2145 Petroleum Engineers
2146 Aerospace Engineers
2148 Other Professional Engineers, n.e.c.

Other Professional Occupations in Health Care 60
3123 Other Professional Occupations in Health Diagnosing and Treating

Other Technical Inspectors and Regulatory Officers 114
2261 Nondestructive Testers and Inspectors
2262 Engineering Inspectors and Regulatory Officers
2263 Inspectors in Public and Environmental Health and Occupational Health and Safety
2264 Construction Inspectors

Other Trades and Related Occupations 233
7343 Shoe Repairers and Shoemakers
7344 Jewellers, Watch Repairers and Related Occupations
7383 Other Trades and Related Occupations

Other Transport Equipment Operators 234
7431 Railway Yard Workers
7432 Railway Track Maintenance Workers
7433 Deck Crew, Water Transport
7434 Engine Room Crew, Water Transport
7435 Lock and Cable Ferry Operators and Related Occupations
7436 Boat Operators
7437 Air Transport Ramp Attendants

Painters and Decorators 235
7294 Painters and Decorators

Paralegals 153
4211 Paralegal and Related Occupations

Performing Artists 139
5133 Musicians and Singers
5134 Dancers
5135 Actors
5232 Other Performers

Personal Care Workers, Orderlies, and Other Health-care Assistants 61
3413 Nurse Aides and Orderlies
3414 Other Aides and Assistants in Support of Health Services
6471 Visiting Homemakers, Housekeepers and Related Occupations

Pet Groomers and Animal Care Workers 200
6483 Pet Groomers and Animal Care Workers

Pharmacists 62
3131 Pharmacists

Photographers 141
5221 Photographers

Physical Sciences Technicians and Technologists 116
2211 Applied Chemical Technologists and Technicians
2212 Geological and Mineral Technologists and Technicians
2213 Meteorological Technicians

Physicists and Astronomers 118
2111 Physicists and Astronomers

Physiotherapists 63
3142 Physiotherapists

Plaster and Drywall Installers 236
7284 Plasterers, Drywall Installers and Finishers and Lathers

Appendix A

Plumbers 237
7251 Plumbers

Police Officers 201
6261 Police Officers (except Commissioned)

Policy and Program Officers..154
4160 Health and Social Policy Researchers, Consultants and Program Officers
4161 Natural/Applied Science Policy Researchers, Consultants and Program Officers
4162 Economists and Economic Policy Researchers and Analysts
4163 Economic Development Officers and Marketing Researchers and Consultants
4166 Education Policy Researchers, Consultants and Program Officers
4168 Program Officers Unique to Government
4169 Other Professional Occupations in Social Science

Power Station and Power Systems Operators 238
7352 Power Systems and Power Station Operators

Practitioners in Natural Healing......................................64
3232 Practitioners in Natural Healing

Printing Machine Operators and Related 183
7381 Printing Press Operators
9471 Printing Machine Operators
9472 Camera, Platemaking and Other Pre-Press Occupations
9473 Binding and Finishing Machine Operators
9474 Photographic and Film Processors

Professional Land Surveyors 119
2154 Land Surveyors

Professional Occupations in Business Services to Management 37
1122 Professional Occupations in Business Services to Management

Psychologists 155
4151 Psychologists

Railway and Marine Traffic Controllers 120
2275 Railway and Marine Traffic Controllers

Recording, Scheduling, and Distributing Occupations...........38
1471 Shippers and Receivers
1472 Storekeepers and Parts Clerks
1473 Production Clerks
1474 Purchasing and Inventory Clerks
1475 Dispatchers and Radio Operators
1476 Transportation Route and Crew Schedulers

Recreation and Sports Program Officers and Consultants 156
4167 Recreation and Sports Program Supervisors and Consultants

Registered Nurses...65
3151 Head Nurses and Supervisors
3152 Registered Nurses

Retail Salespersons and Sales Clerks 202
6421 Retail Salespersons and Sales Clerks

Sales and Service Supervisors 203
6211 Retail Trade Supervisors
6212 Food Service Supervisors
6213 Executive Housekeepers
6214 Dry Cleaning and Laundry Supervisors
6215 Cleaning Supervisors
6216 Other Service Supervisors

Sales Representatives, Wholesale Trade..........................205
6411 Sales Representatives, Wholesale Trade (Non-Technical)

School Teachers, School Counsellors, and School Librarians 157
4141 Secondary School Teachers
4142 Elementary School and Kindergarten Teachers
4143 School and Guidance Counsellors

Secretaries, Recorders, and Transcriptionists 39
1241 Secretaries (except Legal and Medical)
1242 Legal Secretaries
1243 Medical Secretaries
1244 Court Recorders and Medical Transcriptionists

Social Workers, Counsellors, and Probation Officers 158
4152 Social Workers
4153 Family, Marriage and Other Related Counsellors
4155 Probation and Parole Officers and Related Occupations

Specialists in Human Resources 40
1121 Specialists in Human Resources

Stationary/Power Engineers 239
7351 Stationary Engineers and Auxiliary Equipment Operators

Steamfitters, Pipefitters, and Sprinkler System Installers 240
7252 Steamfitters, Pipefitters and Sprinkler System Installers

Supervisors in Primary Industry.....................................171
8211 Supervisors, Logging and Forestry
8221 Supervisors, Mining and Quarrying
8222 Supervisors, Oil and Gas Drilling and Service

Supervisors in Processing, Assembly, and Fabrication 184
9211 Supervisors, Mineral and Metal Processing
9212 Supervisors, Petroleum, Gas and Chemical Processing and Utilities
9213 Supervisors, Food, Beverage and Tobacco Processing
9214 Supervisors, Plastic and Rubber Products Manufacturing
9215 Supervisors, Forest Products Processing
9216 Supervisors, Textile Processing
9221 Supervisors, Motor Vehicle Assembling
9222 Supervisors, Electronics Manufacturing
9223 Supervisors, Electrical Products Manufacturing
9224 Supervisors, Furniture and Fixtures Manufacturing
9225 Supervisors, Fabric, Fur and Leather Products Manufacturing
9226 Supervisors, Other Mechanical and Metal Products Manufacturing
9227 Supervisors, Other Products Manufacturing and Assembly

Appendix A

Supervisors, Railway and Motor Transportation 241
7221 Supervisors, Railway Transport Operations
7222 Supervisors, Motor Transport and Other Ground Transit Operations

Survey Technicians and Technologists 121
2254 Survey Technologists and Technicians

Tailors and Dressmakers 242
7342 Tailors, Dressmakers, Furriers and Milliners

Technical Occupations in Civil, Mechanical, and Industrial Engineering 122
2230 Civil Engineering Technologists and Technicians and Construction Estimators
2232 Mechanical Engineering Technologists and Technicians
2233 Industrial Engineering and Manufacturing Technologists and Technicians

Technical Occupations in Dental Care 66
3220 Dental Technicians and Laboratory Bench Workers
3221 Denturists

Technical Occupations in Electronics and Electrical Engineering 124
2241 Electrical and Electronics Engineering Technologists and Technicians
2242 Electronic Service Technicians (Household and Business Equipment)
2243 Industrial Instrument Technicians and Mechanics
2244 Aircraft Instrument, Electrical, Avionics Mechanics, Technicians and Inspectors

Technical Occupations in Libraries, Archives, Museums, and Galleries 142
5211 Library and Archive Technicians and Assistants
5212 Technical Occupations Related to Museums and Galleries

Technical Sales Specialists, Wholesale Trade 206
6221 Technical Sales Specialists, Wholesale Trade

Telecommunications Equipment Installers and Repairers 243
7246 Telecommunications Installation and Repair Workers
7247 Cable Television Service and Maintenance Technicians

Trades Helpers, Construction Labourers, and Related 244
7611 Construction Trades Helpers and Labourers
7612 Other Trades Helpers and Labourers
7621 Public Works and Maintenance Labourers
7622 Railway and Motor Transport Labourers

Train Crew Operating Occupations 245
7361 Railway and Yard Locomotive Engineers
7362 Railway Conductors and Brakemen/Women

Translators, Terminologists and Interpreters 143
5125 Translators, Terminologists and Interpreters

Underground Miners, Oil and Gas Drillers, and Related 173
8231 Underground Production and Development Miners
8232 Oil and Gas Well Drillers, Servicers, Testers and Related Workers
8411 Underground Mine Service and Support Workers
8412 Oil and Gas Well Drilling Workers and Services Operators

University Professors and Assistants 159
4121 University Professors
4122 Post-Secondary Teaching and Research Assistants

Upholsterers 246
7341 Upholsterers

Urban and Land Use Planners 126
2153 Urban and Land Use Planners

Veterinarians 67
3114 Veterinarians

Welders 247
9510 Welders and Soldering Machine Operators

Writers, Editors, and Journalists 144
5121 Writers
5122 Editors
5123 Journalists

Appendix B...Data Sources and Notes

Occupational Group Title and Code

In order to cover as broad a range of occupations as possible, over 500 specific occupations, as defined by the National Occupational Classification (NOC) at the four-digit level, were clustered into approximately 180 occupational groups. This clustering of occupations combined specific four-digit NOC occupations into occupational groups on the basis of skill, education, and training requirements. Each occupational group is assigned a unique title. For occupational groups containing only one specific four-digit NOC occupation, the original NOC title is generally used. For occupational groups containing more than one four-digit NOC occupation, a title was devised to reflect the types of occupations contained in the group. A complete listing of the specific four-digit NOC occupations in each group is presented in Appendix A.

Related Occupations

As mentioned, some occupations are grouped together and appropriate occupational titles are given. Therefore, in those groups which contain a number of different occupations, a list of typical occupations is provided under the occupational title.

Nature of the Work

This section details the basic types of work performed by individuals in a particular occupational group. Information was derived from the National Occupational Classification, individuals and organizations associated with the occupation, and various other counselling publications. A full list of sources used in Career Options is contained in the bibliography.

Requirements

The education and/or level of training, certification or licensure required in order to obtain employment within a particular occupational group is indicated in this section. Requirements were determined in consultation with individuals and organizations associated with specific occupations.

Training Paths

Under this heading, the normal methods for obtaining the skills to work in the given occupations are summarized. Where appropriate, this section outlines the institutions which provide the education and/or training an individual should acquire in order to obtain employment in a particular occupational group. Information on training paths was obtained from community college and university calendars, various inventories of university courses, and *Directions: An Inventory of Education and Training Offered in Nova Scotia*. In addition, information pertaining to requirements for on-the-job training or work experience was obtained from a variety of sources including professional associations, industry associations, and employers.

Likely Employers

The main industries in which workers in this occupational group are employed are included under this heading.

Other Considerations

This section includes information about the seasonality of employment and other factors which may affect working conditions in this occupational group.

Nova Scotia Labour Market Conditions

Occupational forecasts presented in ***Career Options*** are based on a revised version of the Provincial Scenario of the Canadian Occupational Projection System (COPS). COPS is a computerized occupational forecasting system developed and maintained by Human Resources Development Canada.

The Provincial Scenario, a forecast of employment for 33 major industries, was developed jointly by the Nova Scotia Department of Education and the Nova Scotia Regional Office of Human Resources Development Canada. These 33 industry forecasts are broken down into specific forecasts for four-digit NOC occupations through an industry/occupation matrix derived from Census of Canada data.

Estimated Employment in 2002

This indicates the estimated 2002 employment level in the specific occupational group as determined through revised COPS estimates. The estimate includes all individuals employed in the group (i.e. full-time and part-time workers, new entrants and fully experienced individuals).

Estimated Change in Employment Between 2002 and 2007

Employment in an occupation is said to be ***growing*** if the projected average annual growth rate between 2002 and 2007 is greater than 0.5%, or growing rapidly if the projected average annual growth rate between 2002 and 2007 is greater than 2.5%.

Employment in an occupation is said to be ***stable*** if the projected average annual growth rate between 2002 and 2007 is between -0.5% and +0.5%.

Employment in an occupation is said to be ***declining*** if the projected average annual growth rate between 2002 and 2007 is less than -0.5%.

Estimates for occupations where employment is small are not reliable and are therefore not reported.

Appendix B...Data Sources and Notes

Average Number of New Job Openings

This refers to the average annual number of job openings likely to occur in a particular occupational group between 2002 and 2007. Job openings arise primarily due to two factors: new employment growth and attrition. New employment growth occurs when new firms start up or existing firms increase employment levels. Attrition may result from a number of factors. Attrition occurs when individuals currently employed in a particular occupation die, retire, change occupations, temporarily withdraw from the labour force (e.g. to return to school), or move to another province or country. In most occupations attrition accounts for the majority of new job openings.

Attrition estimates used in ***Career Options*** only take into account attrition associated with deaths and retirements. Reliable estimates of attrition associated with other factors are not currently available. As a result, the estimates of job openings presented in ***Career Options*** are likely to be smaller than the actual number of openings, in some cases by a substantial amount.

Unemployment Information

The unemployment information presented in ***Career Options*** indicates the unemployment rate for a particular occupational group relative to the overall unemployment rate for all occupations in Nova Scotia. Unemployment rates are calculated on the basis of the average number of Employment Insurance beneficiaries in an occupation during 2001. It should be noted that these rates are not comparable to Labour Force Survey (LFS) estimates of unemployment.

The unemployment rate for a particular occupational group may be listed as either significantly below average, below average, average, above average, or significantly above average. These ranges are defined as follows:

Significantly below average...
the unemployment rate is more than 50% lower than the average for all occupations in Nova Scotia.

Below average...
the unemployment rate is 26% to 50% lower than the average for all occupations in Nova Scotia.

Average...
the unemployment rate falls within the average unemployment rate for all occupations in Nova Scotia plus or minus 25%.

Above average...
the unemployment rate is 26% to 100% higher than the average for all occupations in Nova Scotia.

Significantly above average...
the unemployment rate is more than twice as high as the average for all occupations in Nova Scotia.

Estimated Annual Earnings in 1995

The estimated average annual earnings of full-time, full-year workers in the occupational group as of 1995 is indicated. It should be noted that this figure is the average for all people in the given occupational group. Starting wages are generally significantly below this figure. Nova Scotia earnings data for 1995 were obtained from the 1996 Census of Canada. Where the provincial estimate was not available, earnings were estimated from the national data.

Appendix C...Addresses of Education Institutions

Collège de l'Acadie
Centre de services de Pomquet
R.R. 7
Pomquet (N.-É.) B2G 2L4
Téléphone: 902-386-2556
www.ccfne.ns.ca

Centre de formation de Halifax-Dartmouth
73, promenade Tacoma (4e étage)
Dartmouth (N.-É.) B2W 3Y6
Téléphone: 902-424-2630

Centre de formation de La Butte
C.P. 8
La Butte (N.-É.) B0W 2L0
Téléphone: 902-769-3904

Centre de formation de Petit-de-Grat
C.P. 45
Petit-de-Grat (N.-É.) B0E 2L0
Téléphone: 902-226-3900

Centre de formation de Saint-Joseph-du-Moine
C.P. 59
Saint-Joseph-du-Moine (N.-É.) B0E 1L0
Téléphone: 902-224-4100

Centre de formation de Tusket
C.P. 59
Tusket (N.-É.) B0W 3M0
Téléphone: 902-648-3524

Nova Scotia
Community College
email: nsccadmissions@nscc.ns.ca
www.nscc.ns.ca
PO Box 220, Halifax, NS B3J 2M4
Toll-free Phone in Nova Scotia:
1-866-679-6722 (Halifax area: 491-4911)
Toll-free Fax 1-866-329-6722
(Halifax area: 491-3514)

Akerley Campus
21 Woodlawn Road
Dartmouth, NS B2W 2R7
Phone: 902-491-4900
akadmissions@nscc.ns.ca

Annapolis Valley Campus
50 Elliot Road
Lawrencetown, NS B0S 1M0
Phone: 902-825-2930
avadmissions@nscc.ns.ca

Burridge Campus
372 Pleasant Street
Yarmouth, NS B5A 2L2
Phone: 902-742-0760
buadmissions@nscc.ns.ca

Cumberland Campus
PO Box 550
1 Main Street
Springhill, NS B0M 1X0
Phone: 902-597-3737
cuadmissions@nscc.ns.ca

Halifax Campus
1825 Bell Road
Halifax, NS B3H 2Z4
Phone: 902-491-4636
haadmissions@nscc.ns.ca

Institute of Technology Campus
5685 Leeds Street
PO Box 2210
Halifax, NS B3J 3C4
Phone: 902-491-6722
inadmissions@nscc.ns.ca

Kingstec Campus
236 Belcher St.
PO Box 487
Kentville, NS B4N 3X3
Phone: 902-678-7341
kiadmissions@nscc.ns.ca

Lunenburg Campus
75 High Street
Bridgewater, NS B4V 1V8
Phone: 902-543-4608
luadmissions@nscc.ns.ca

Marconi Campus
PO Box 1042
1240 Grand Lake Road
Sydney, NS B1P 6J7
Phone: 902-563-2450
maadmissions@nscc.ns.ca

Pictou Campus
PO Box 820
39 Acadia St.
Stellarton, NS B0K 1S0
Phone: 902-752-2002
piadmissions@nscc.ns.ca

Shelburne Campus
1575 Lake Road
Shelburne, NS B0T 1W0
Phone: 902-875-8640
shadmissions@nscc.ns.ca

Strait Area Campus
226 Reeves Street
PO Box 1225
Port Hawkesbury, NS B0E 2V0
Phone: 902-625-4017
stadmissions@nscc.ns.ca

Truro Campus
36 Arthur St.
Truro, NS B2N 1X5
Phone: 902-893-5346
tradmissions@nscc.ns.ca

Registered Private Career Colleges
in Nova Scotia
Academy of Cosmetology
363 Windmill Rd.
Dartmouth, NS B3A 1J2
Phone: 902-469-7788
aoc@academyofcosmetology.com

Academy of Learning (Halifax)
6960 Mumford Rd., Suite 105, West End Mall
Halifax, NS B3L 4P1
Phone: 902-455-3395
academyhfx.com

Academy of Learning (Dartmouth)
100A Paddlers Cove, 300 Prince Albert Rd.
Dartmouth, NS B2Y 4J2
Phone: 902-469-8973
aoldartmouth.com

Acadia Centre for Small Business &
Entrepreneurship
c/o Acadia University
Wolfville, NS B0P 1X0
Phone: 902-585-1180
acsbe.acadiau.ca

Atlantic Media Institute
3425 Dutch Village Rd.
Halifax, NS B3N 2S7
Phone: 902-457-0002
theami.com

Atlantic Flight Attendant Academy
506-5675 Spring Garden Rd., Suite 110
Halifax, NS B3J 1H1
Phone: 902-422-0339
flightattendant.com

Atlantic Overseas Teaching Institute
5595 Fenwick St., Suite 208
Halifax, NS B3H 4M2
Phone: 902-423-4767
aoti.ca

Atlantic Petroleum Training College
(N.S.) Limited
9 Keltic Drive
Sydney, NS B1S 1P4
Phone: 902-564-2440
atlanticpetroleomtrainingcollege.com

Appendix C...Addresses of Education Institutions

Breton Beauty College
270 George St.
Sydney, NS B1S 2G5
Phone: 902-562-1208

Bridgewater Institute of Cosmetology & Salon
170 Aberdeen Rd.
Bridgewater, NS B4V 2S9
Phone: 902-857-9265

C.L. Douglas Centre for Computer Studies
1142 Bedford Hwy.
Bedford, NS B4A 1B8
Phone: 902-835-8880
cldouglas.com

Canadian College of Natural Medicine
1306 Bedford Hwy.
Bedford, NS B4A 1C8
Phone: 902-832-0688
ccofnm.com

Canadian School of Natural Nutrition
5663 Cornwallis St., Suite 300
Halifax, NS B3K 1B6
Phone: 902-832-0688
csnn.ca

Canadian International Career College Inc.
724 King Street
Bridgewater, NS B4V 2W8
Phone: 902-543-9900
ciccollege.com

Cape Breton Business College
PO Box 955, 440 George St.
Sydney, NS B1P 6J4
Phone: 902-564-2222
cbbc.ns.ca

Career Academy of Canada
235-800 Sackville Dr.
Sackville, NS B4E 1R8
Phone: 902-864-7460
caccollege.com

CDI College of Business & Technology
5657 Spring Garden Rd., Box 111
Halifax, NS B3J 3R4
Phone: 902-429-7373
cdicollege.com

Centre for Distance Education
5670 Spring Garden Rd., 10th Floor
Halifax, NS B3J 1H6
Phone: 902-539-0153
cd-ed.com

Commercial Safety College
PO Box 848
Highway #2, Masstown
Truro, NS B2N 5G6
Phone: 902-662-2190

CompuCollege School of Business (Dartmouth)
Queens Square, 45 Alderney Gate
Dartmouth, NS B2Y 2N6
Phone: 902-435-6060
compucollegeatlantic.ca

CompuCollege School of Business (Halifax)
1526 Dresden Row, PO Box 3608
Halifax, NS B3J 3K6
Phone: 902-423-3933
compucollegeatlantic.ca

Concepts School of Cosmetology
2441 Agricola St.
Halifax, NS B3K 4C1
Phone: 902-492-2444
concepts.ns.ca

Consolidated Fluid Power Limited
151 Wright Ave.
Dartmouth, NS B3B 1V6
Phone: 902-468-8814
Toll-free: 1-800-563-2374
cfpi.ca

Counsellor Training Institute
1657 Barrington St., Suite 437
Halifax, NS B3J 2A1
Phone: 902-423-0966

CSI
4 Westwood Blvd., Box 104
Upper Tantallon, NS B3Z 1H3
Phone: 902-497-8231

Hair Masters
26 Archibald Ave.
North Sydney, NS B2A 2W3
Phone: 902-794-2460

Hair Design Centre
1465 Brenton Street, Box 8
Halifax, NS B3J 3T3
Phone: 902-455-0535

HAL Consulting Inc.
PO Box 191
Clementsport, NS B0S 1E0
Phone: 902-638-8666

Highland Resources Limited
282 George St.
Sydney, NS B1P 6J7
Phone: 902-539-9560

Island Career Academy
721 Alexander St.
Sydney, NS B1S 2H4
Phone: 902-564-6112
snoopy.v~net.org

ITI Information Technology Institute Inc.
201-5523 Spring Garden Rd.
Halifax, NS B3J 3T1
Phone: 902-423-8283
iti.com

Keyin College
6960 Mumford Rd., Suite 111, West End Mall
Halifax, NS B3L 4P1
Phone: 902-454-4170
keyin.ns.ca

MacTech Distance Education
PO Box 192
Sydney, NS B1P 6H1
Phone: 902-794-1770 or 794-1772
Toll Free: 1-888-622-8324
homeed.com

Maritime Business College (Halifax)
6270 Quinpool Rd.
Halifax, NS B3L 1A3
Phone: 902-423-6516
marbuscollege.com

Maritime Business College (Dartmouth)
145 Ochterloney St.
Dartmouth, NS B2Y 1C9
Phone: 902-463-6516
marbuscollege.com

Maritime Art Institute of Holistic Esthetics
7B Convent St.
North Sydney, NS B2A 3A3
Phone: 902-794-1929
maritimeartinstitute.com

Maritime Environmental Training Institute
27 Commercial St., PO Box 28
Glace Bay, NS B1A 5V1
Phone: 902-849-4755

Maritime School of Paramedicine
88 Slayter St.
Dartmouth, NS B3A 2A6
Phone: 902-463-5646
stjohnambulance.ns.ca

McKenzie College (Sydney)
70 Crescent St.
Sydney, NS B1S 2Z7
Phone: 902-562-8549
mckenzie.edu

McKenzie College (Halifax)
5670 Spring Garden Rd., 10th Floor
Halifax, NS B3J 1H6
Phone: 902-425-2015
mckenzie.edu

Appendix C...Addresses of Education Institutions

Millennium Safety and Driving Academy Ltd.
80 Randall Ave. Suite 3
Dartmouth, NS B3B 1T7
Phone: 902-468-8999
ca.geocities.com/msdacademy

Northeastern Business College
95 College St.
Antigonish, NS B2G 1X6
Phone: 902-863-3361
training@auracom.com

ICT TM Northumberland College
1888 Brunswick St.
Halifax, NS B3J 1V7
Phone: 902-425-2869, ext. 245
Toll free: 1-888-862-2230
ictschools.com

Nova Scotia Firefighters School
PO Box 309
Waverley, NS B0N 2S0
Phone: 902-495-1781
nsfs.ns.ca

Operating Engineers Investment Limited
251 Brownlow Ave.
Dartmouth, NS B3B 2A9
Phone: 902-865-8844

Patrick's Business College
PO Box 1118, 333 Charlotte St.
Sydney, NS B1P 6J7
Phone: 902-567-1234
k94radio.com/mall/pbc

St. Joseph's College of Early
Childhood Education Soc.
2277 Maitland St.
Halifax, NS B3K 5K8
Phone: 902-423-7114
stjosephsece.ns.ca

Success College of Applied Arts and Technology
100 Victoria St.
Truro, NS B2N 1Y8
Phone: 902-893-2400
scaat.ca

Success College–Scotia Campus
800 Sackville Dr.
Lower Sackville, NS B4E 1R8
Phone: 902-865-8283
scaat.ca

The Institute for Education
60 Lorne St., Suite 1
Truro, NS B2N 3K3
Phone: 902-893-3342
ieceds.ns.ca

The daVinci Institute
1467 Brenton St.
Halifax, NS B3J 2K7
Phone: 902-429-1847, ext. 27
the-davinci-institute.com

TNT Technical Services
PO Box 722
Mount Pearl, NF A1N 2Y2
Phone: 709-745-4364

Universities in Nova Scotia

Acadia University
Admissions Office
Wolfville, NS B0P 1X0
Phone: 902-542-2200
www.acadiau.ca

Dalhousie University
Office of the Registrar
Halifax, NS B3H 4H6
Phone: 902-494-2450
www.dal.ca

Mount Saint Vincent University
Admissions Office
166 Bedford Highway
Halifax, NS B3M 2J6
Phone: 902-457-6128
www.msvu.ca

Nova Scotia Agricultural College
Registrar's Office
PO Box 550
Truro, NS B2N 5E3
Phone: 902-893-6722
www.nsac.ns.ca

Nova Scotia College of Art and Design
Admissions Office
5163 Duke Street
Halifax, NS B3J 3J6
Phone: 902-494-8129
www.nscad.ns.ca

St. Francis Xavier University
Admissions Office
PO Box 5000
Antigonish, NS B2G 2W5
Phone: 902-867-2219
www.stfx.ca

Saint Mary's University
Admissions Office
923 Robie St.
Halifax, NS B3H 3C3
Phone: 902-420-5415
www.stmarys.ca

Université Sainte-Anne
Church Point
Digby County, NS B0W 1M0
Phone: 902-769-2114
www.ustanne.ednet.ns.ca

University of King's College
Registrar's Office
6350 Coburg Road
Halifax, NS B3H 2A1
Phone: 902-422-1271
www.ukings.ns.ca

University College of Cape Breton
Registrar's Office
PO Box 5300
Sydney, NS B1P 6L2
Phone: 1-888-959-9995
www.uccb.ns.ca

Post-Secondary Institutions Outside Nova Scotia

Algonquin College of Applied Arts and Technology
1385 Woodroffe Ave.
Nepean, ON K2G 1V8
Phone: 613-727-4723
www.algonquincollege.com

Canadore College of Applied
Arts and Technology
Admissions Office
100 College Drive
PO Box 5001
North Bay, ON P1B 8K9
Phone: 705-474-7600
www.canadorec.on.ca

Carleton University
Admissions Office
1125 Colonel By Drive
Ottawa, ON K1S 5B6
Phone: 1-888-354-4414
www.carleton.ca

Concordia University
1455, de Maisonneuve Ouest
Montreal, QC H3G 1M8
www.concordia.ca

George Brown College of Applied
Arts and Technology
500 Macpherson Avenue
PO Box 1015, Station B
Toronto, ON M5T 2T9
Phone: 1-800-265-2002
www.gbrownc.on.ca

Appendix C...Addresses of Education Institutions

Georgian College of Applied
Arts and Technology
Registrar's Office
1 Georgian Dr.
Barrie, ON L4M 3X9
Phone: 705-728-1968
www.georcoll.on.ca

Holland College
Admissions Office
140 Weymouth Street
Charlottetown, PE C1A 4Z1
Phone: 1-800-446-5265
www.hollandc.pe.ca

Laurentian University
Liaison Services
935 Ramsey Lake Road
Sudbury, ON P3E 2C6
Phone: 705-675-1151
www.laurentian.ca

Maritime Forest Ranger School
1350 Regent Street
Fredericton, NB E3C 2G6
Phone: 506-458-0199
www.mfrs.nb.ca

Memorial University of Newfoundland
St. John's, NF A1C 5S7
www.mun.ca

Michener Institute for Applied Health Sciences
222 St. Patrick St.
Toronto, ON M5T 1V4
Phone: 1-800-387-9066
www.michener.ca

Mohawk College of Applied Arts
and Technology
Admissions Office
PO Box 2034
Hamilton, ON L8N 3T2
Phone: 905-575-1212
www.mohawkc.on.ca

Mount Allison University
Admissions Office
Sackville, NB E4L 1E4
Phone: 506-364-2269
www.mta.ca

New Brunswick Community College
PO Box 1053
80 University Ave
Miramichi, NB E1N 3W4
www.gov.nb.ca/ael/nbcc

Ryerson Polytechnical Institute
Registrar's Office
Department of Admissions/
Liaison/Curriculum Advising
350 Victoria Street
Toronto, ON M5B 2K3
Phone: (416) 979-5036
www.ryerson.ca

Sault College of Applied Arts and Technology
Admissions Office
PO Box 60
Sault Ste. Marie, ON P6A 5L3
Phone: 1-800-461-2260
www.saultc.on.ca

Seneca College of Applied Arts & Technology
Registrar's Office
1750 Finch Ave. East
Toronto, ON M2J 2X5
Phone: 416-491-5050
www.senecac.on.ca

Université de Moncton
Campus du Edmundston
Service de l'admission
165, boulevard Hébert
Edmundston, NB E3V 2S8
Phone: 1-800-561-9064
www.umoncton.ca

Université de Montreal
Bureau des Admissions
C.P. 6128, Succursale Centre-Ville
Montreal, QC H3C 3J7
Phone: 514-343-6111
www.umontreal.ca

Université Laval
Bureau du registraire
C.P. 2208, Succursale Terminus
Québec QC G1K 7P4
Phone: 418-656-2131
www.ulaval.ca

University of Alberta
Registrar's Office
114 89 Avenue
Administration Building, Room 201
Edmonton, AB T6G 2M7
Phone: 780-492-3111
www.ualberta.ca

University of British Columbia
Registrar's Office
2016-1874 East Mall
Vancouver, BC V6T 1Z1
Phone: 604-822-3014
www.ubc.ca

University of New Brunswick
Admissions Office
PO Box 4400, Stn A
Fredericton, NB E3B 5A3
Phone: 1-800-743-4333 (#1)
www.unb.ca

University of New Brunswick
Saint John Campus
Tucker Park Road
PO Box 5050
Saint John, NB E2L 4L5
Phone: 1-800-743-4333 (#2)
www.unb.ca

University of Ottawa
Admissions Office
550 Cumberland Street
PO Box 450, Station A
Ottawa, ON K1N 6N5
Phone: 613-562-5800
www.uottawa.ca

University of Prince Edward Island
Registrar's Office
550 University Avenue
Charlottetown, PE C1A 4P3
Phone: 902-566-0439
www.upei.ca

University of Toronto
Admissions and Awards
315 Bloor Street West
Toronto, ON M5S 1A3
Phone: 416-978-2190
www.utoronto.ca

University of Waterloo
Admissions Office
200 University Avenue West
Waterloo, ON N2L 3G1
Phone: (519) 888-4567, ext. 3614
www.uwaterloo.ca

Bibliography

Canada. Human Resources Development Canada. *2000 Nova Scotia Labour Market Outlook.* Forthcoming [paper and Internet].

Canada. Human Resources Development Canada. *Applied Research Bulletin.* Monthly. Ottawa. [paper and Internet] Available at:
www.hrdc-drhc.gc.ca/arb/publications/bulletin/contents.shtml

Canada. Human Resources Development Canada. *Canada Prospects 1999.* Annual. Ottawa. [Internet] Available at:
canadaprospects.com

Canada. Human Resources Development Canada. *Job Futures. Part 1: Occupational Outlooks.* Public Works and Government Services Canada. Ottawa. 1997. [paper and Internet] Available at:
jobfutures.ca

Canada. Human Resources Development Canada. *Job Futures. Part 2: Career Outlooks for Graduates.* Public Works and Government Services Canada. Ottawa. 1997. [paper and Internet] Available at:
jobfutures.ca

Canada. Human Resources Development Canada. *Canadian National Labour Market Information System (NLMISYS).* Ottawa. 2000. [Internet] Available at:
imi-imt.hrdc-drhc.gc.ca

Canada. Human Resources Development Canada. *National Occupational Classification: Occupational Descriptions.* Minister of Supply and Services. Ottawa. 1993. [paper and Internet] Available at:
imi-imt.hrdc-drhc.gc.ca

Canada. Human Resources Development Canada. *National Occupational Classification: Index of Titles.* Minister of Supply and Services. Ottawa. 1993. [paper and Internet] Available at:
www.hrdc-drhc.gc.ca/noc

Canada. Human Resources Development Canada. *National Occupation Classification: Career Handbook. Volumes 1 and 2.* Minister of Supply and Services. Ottawa. 1996. [paper and Internet] Available at:
www.hrdc-drhc.gc.ca/noc

Canada and Nova Scotia. Human Resources Development Canada and Nova Scotia Department of Education. *Labour Market Information @ Work in Nova Scotia: A Guide for Practitioners.* Halifax. 1999. [paper and Internet] Available at:
doc-depot.ednet.ns.ca/lmih.html

Canada. Statistics Canada. *Education Quarterly Review.* Quarterly. No. 81-003. Ottawa.

Canada. Statistics Canada. *Historical Labour Force Statistics.* Annual. No. 71-201- XPB. Ottawa.

Canada. Statistics Canada. *Labour Force Information.* Monthly. No. 71-001-PPB. Ottawa.

Canada. Statistics Canada. *Labour Force Historical Review.* Annual. No. 71F0004XCB. Ottawa. [CD-ROM]

Canada. Statistics Canada. *Labour Force Update.* Quarterly. No. 71-005-PPB. Ottawa.

Canada. Statistics Canada. *Labour market and income data guide, 1999 edition.* Ottawa. No. 75F0010XIE. Release date: January 10, 2000. Ottawa. [Internet] Available at:
www.statcan.ca/english/IPS/Data/75F0010XIE.htm.

Canada. Statistics Canada. *Perspectives on Labour and Income.* Quarterly. No. 75-001XPE. Ottawa.

Canada. Statistics Canada. *Standard Occupational Classification.* Ottawa. 1991. No. SOC 1991. [paper and Internet] Available at:
www.statcan.ca/english/concepts/occupation.htm

Canada. Statistics Canada. *The Nation: 1996 Census of Population.* Ottawa. No. 93F0020XCB96004. Ottawa. [CD-ROM]

Canada. WorkinfoNET Partnership. Canada WorkinfoNET (CANWIN). 2000. [Internet] Available at:
www.workinfonet.ca

1998/99 Associations Canada: The Directory of Associations in Canada. Ward McBurney, editor. Toronto: IHS/Micromedia. 1998.

Kunz, Jean L. and Grant Schellenburg. *Youth at Work in Canada.* Canadian Council on Social Development, Ottawa, 1999.

United States. Department of Labor, Bureau of Labor Statistics. *Occupational Outlook Handbook, 2002-2003 Edition.* Washington. 2002. [paper and Internet] Available at:
www.bls.gov.oco

Suggested Web Resources

CanLearn
Designed to help you plan your education, this website includes links to college and university sites, provides information on financing your education, and more.
canlearn.ca

Job Futures
This site provides national labour market information and projections, along with information on different occupations and careers.
www.hrdc-drhc.gc.ca/jobfutures

Nova Scotia Department of Education
Department publications are posted on this site, as well as information on Nova Scotia universities and colleges, student loans, private career colleges, high school equivalency, apprenticeship, teacher certification, and entrepreneurship.
ednet.ns.ca

Nova Scotia WorkinfoNET (NSWIN)
A gateway to a variety of web resources, including information on career planning, labour market prospects, entrepreneurship, and more.
www.ns.workinfonet.ca

Youth Resource Network of Canada
Provides links to sites that can help you assess your interests and choose and plan a career. Also has information on job search techniques, along with links to job postings, schools, government programs, and international opportunities.
www.youth.gc.ca

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